OCTOBER
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fueloil & oil heat

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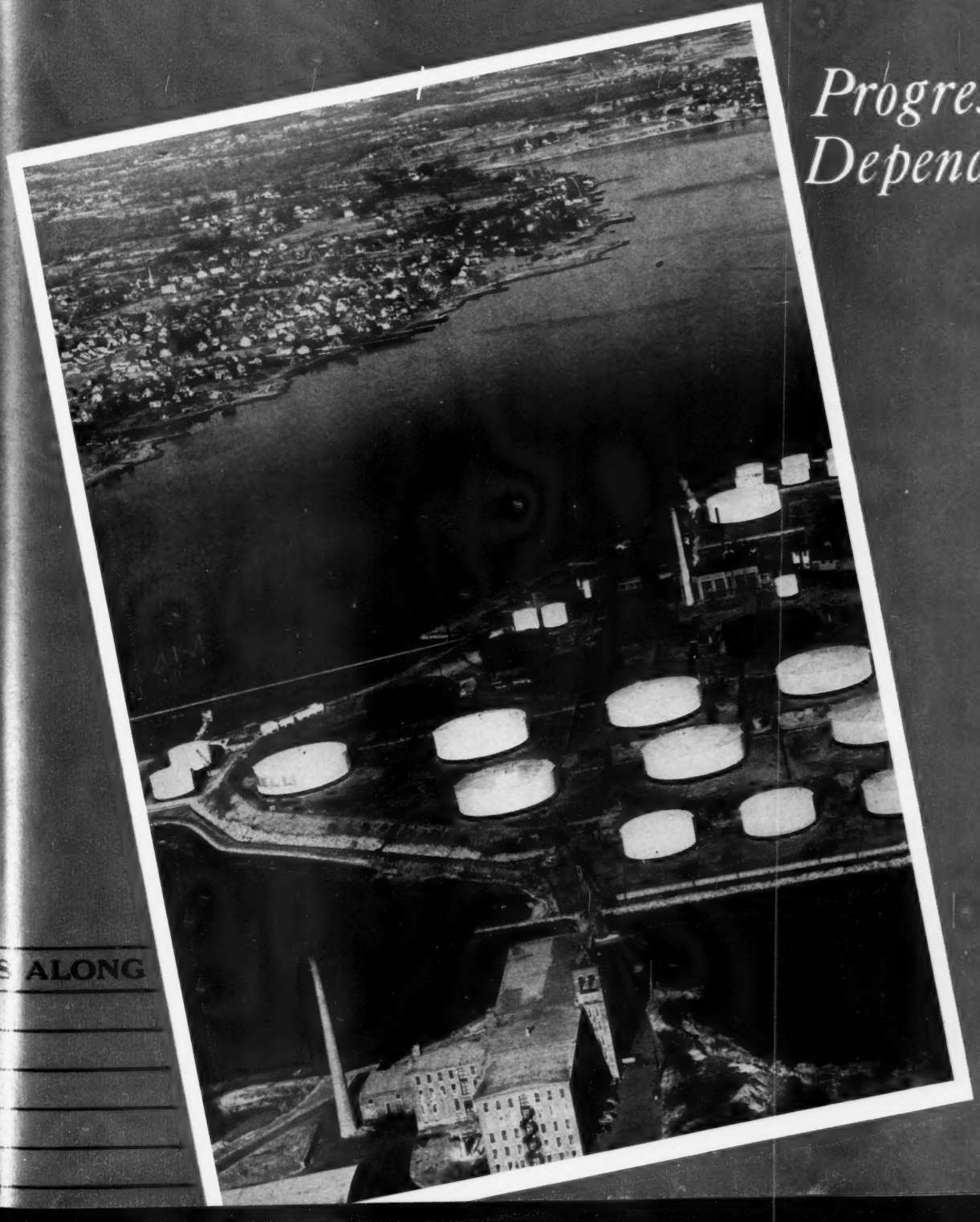

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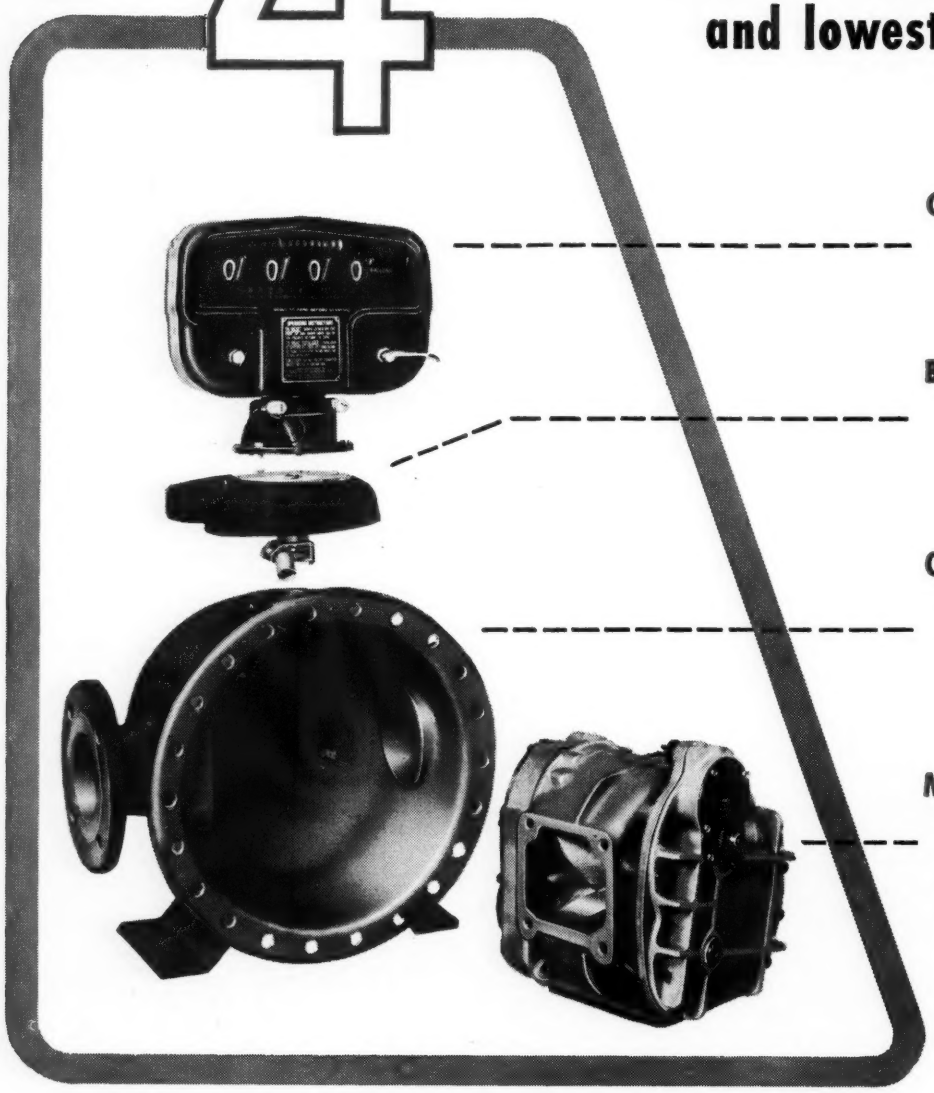
Just 4 UNIT BUILT ASSEMBLIES

assures faster, easier servicing and lowest maintenance cost



COUNTER—Various types of counters: Direct reading, automatic quantity control, ticket printing, compact horizontal—all interchangeable

BASE PLATE ASSEMBLY includes adjustor which provides simple dry adjustment to increments of 1/20 of 1% while meter is in the line —without loss of liquid

OUTER CASE—All welded steel housing provides maximum strength and rigidity with minimum weight — absorbs normal line shocks, pressures, and piping strains without affecting metering accuracy

MEASURING UNIT—Readily and easily removed or replaced without disturbing existing line connections. A spare unit takes the place of an extra meter

Accessibility of the four simple unit built assemblies reduces time and cost of inspection, cleaning and servicing to a minimum. And Brodie Meters *require less maintenance,* for there are just two moving parts in the statically and dynamically balanced measuring element, with no metal-to-metal contact to cause wear or repair. For longer service life and high sustained accuracy—at lowest maintenance cost—investigate Brodie BiRotors today.

BRODIE ALL-STEEL BiRotor TRUE-ROTARY METERS

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REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES

OCTOBER fueloil & oilheat 1953

VOLUME 12 NUMBER 10

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Among other things . . .

The picture on the cover this month shows Shell's marine terminal at Fall River, Mass. A majority of the product handled through this plant is fueloil.

Open-end mortgages and how they can be helpful to the oilheating industry start the parade of features in the main section. This financing facility could be tremendously effective for us if we could get more of the country's banks interested. In time we will, because the idea is good.

Selling gets considerable emphasis this month, not only in the mortgage story, but it becomes an important phase of the Lewis Coal & Oil yarn, the new homes feature story and Bert Dunphy's findings on his trip up the river to Poughkeepsie. Most any strong oilheating dealer will agree that selling deserves more emphasis than any of us give it . . . it's the most nebulous phase of any industry.

HIGH DELIVERY

AIROTOR Blower Wheels
REG. U. S. PAT. OFF.

The new "H" Series (High Delivery) Airotor Blower Wheel enables most oil burners to qualify for an upward revision of rating — or to attain existing maximum rating far more easily — at no increase in manufacturing cost.

- **Delivers up to 15% more air with no change in dimensions.**
- **Working area of individual blades increased and blade curvature made more effective.**
- **Operates effectively against higher static pressures.**
- **For applications where motor load is critical, some testing to evaluate effect on motor load will be necessary.**
- **Available in 4¼", 4¾", 5¼" and 6⅜" diameter Airotors in all popular widths. Priced same as standard Airotors.**
- **Samples for test purposes or performance graphs available on request.**

For complete information write Torrington today . . .

The TORRINGTON MANUFACTURING COMPANY
TORRINGTON, CONNECTICUT

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Names in the News

Milton V. Stagg, assistant to the vice-president, Williams Div., Eureka Williams Corp., Bloomington, Ill., has retired. A long-standing executive of the Bloomington concern, Stagg joined the company in May 1934 as manager of the Williams Ice-O-Matic Division. For the past year and a half, Stagg was acting as an independent company consultant on matters of policy relating to the Williams Division, the first man to hold such a position within the framework of the Eureka Williams Corporation. In 1919, Stagg joined the Domestic Electric Appliance Co., Peoria, the first distributors of Oil-O-Matic outside the Bloomington area. He remained there until 1933.

Thomas J. Affleck has been appointed heat sales manager, Delco Appliance Div., General Motors Corp., Rochester 1, N. Y. Affleck joined Delco in 1936. Following his discharge from the Army in 1946, he was assigned to the Detroit sales office as a zone representative for Delco-Heat sales. In 1948 he was transferred to Rochester and became regional manager in 1949. In his new position, Affleck will be in charge of Delco-Heat sales for the entire nation.

Sherman T. Ramey has been appointed advertising manager, Timken Detroit Axle Co., Detroit 32. Ramey was formerly advertising and sales promotion manager, Highway Trailer

HIT the HEATING MARKET Jackpot WITH Luxaire!

Unit Heaters Gas Fired 4 Sizes in greatest demand
Counterflow Units Approved for Either Gas or Oil
Gravity Furnaces Approved for Either Gas or Oil
Incinerators
With or without Gas Burner
Gas Conversion Burner 3 Sizes 15,000, 200,000 300,000 B.T.U. Input
Year 'Round Air Conditioning Units
2 and 3 Ton Refrigerating Units
Air Conditioning Units Coal Fired, Readily Converted to Gas or Oil Firing
Utility Units Approved for Either Gas or Oil
Basement Air Conditioning Units Approved for Either Gas or Oil
Horizontal Furnaces Gas Fired and Oil Fired

NOW! More Complete than Ever with a Furnace for ANY Order!

When you sell Luxaire your are selling the most up-to-date — most complete line of heating and year 'round air conditioning equipment ever offered to the heating trade.

When you sell Luxaire you can't help but hit the "Jackpot" everytime because with Luxaire you have the right unit for any type of heating installation — and for any fuel.

You hit the jackpot consistently, too, because most Luxaire furnaces are approved for either gas or oil firing. With Luxaire you install the furnace now and add either the gas or oil burner anytime. Or — install for either fuel now and convert to the other — anytime — at a surprisingly low cost.

So with Luxaire you have a tremendous, unlimited sales potential! You can fill any order profitably!

See your Luxaire jobber NOW! Don't delay. Start hitting the Jackpot the Luxaire way.

Most Furnaces Approved for Either GAS or OIL!

THE Luxaire® C. A. OLSEN MANUFACTURING COMPANY • ELYRIA, OHIO

HEATING & AIR CONDITIONING UNITS

". . . sold 213 out of 500 packages of TANK-LIFE TABLETS in one week. Thanks for the terrific sales aids . . ."

—Malcolm L. Brown,
General Manager
Mechanical Oil
Co., Inc.
Trenton, New Jersey

There's PROFIT in Rustproofing Fuel Oil Tanks

. . . in dollars and cents
. . . in customer good-will

TANK-LIFE Tablets (Patent Pending) stop rust and corrosion in fueloil tanks containing any grade of oil. Only a moment's time is required to drop TANK-LIFE Tablets into fill line — *and that's all you have to do!* Tablets will then guard tank against rust up to several years. Tablets do not dissolve in oil. They are activated only by the presence of water. Will not clog or obstruct fuel lines, nozzles or strainers. **Low cost —excellent profit.**

WE HELP YOU SELL!

Advertising with a 1-2-3-4 punch. Generous supply of Letters — Circulars — Reply Cards—Stickers, imprinted with your firm name, *all free of extra cost.* Hard-hitting sales aids for quick orders and turnover.

FREE Samples:

Send for FREE samples of TANK-LIFE Tablets and profit-making sales promotion plan!

STEWART-HALL CHEMICAL CO.
550 South Fulton Avenue
Mt. Vernon, N. Y.

NAME .....

ADDRESS .....

.....

Co., sales promotion manager, Home Appliance Div., Murray Corp. of America, director of promotion for Bakers of America, a trade association, and advertising manager, American Hospital Supply Corp. In his new post Ramey will be in charge of the advertising activities of both The Timken-Detroit Axle Division and the Timken Silent Automatic Division.

Stanley George Crate, 52, vice-president and general manager, Rossoe Mfg. Co., Seattle 2, Wash., died suddenly while on vacation sports fishing at the Columbia River at Astoria, Ore. Crate joined Rossoe in 1925. He served in various capacities until named to his recent capacity 11 years ago. Crate held memberships in the Oil Heat Institute of America; National Oldtimers Club of the oilburner industry; Sheet Metal Contractors and Manufacturers Association; and he had been past president of the Washington State Chapter of the OHI; Oil Fuel Dealers' Association and Oil Burner Dealers' Association. Surviving are his wife, Isobel, a daughter, Mrs. Peter Misserian; a son, Leonard, and two sisters.

William Ferry, Milwaukee, Wis., is associated with R. Wendell Franks, Michigan City, Ind., to contact dealers in Wisconsin and Upper Michigan. Franks represents Skuttle humidifiers and Windmaster draft controls.

Richard E. Smith, 47, sales representative for the Burns Heating Supply Co., Long Island City, N. Y., died August 30 at Columbus Hospital following a heart ailment. Smith was long associated with the oilburner industry having worked with Williams Oil-O-Matic Division many years. A requiem mass was held in the Roman Catholic Church of the Epiphany, Manhattan. Smith was buried in the Holy Cross Cemetery, Brooklyn.

Charles Burkhardt, formerly associate editor of FUELOIL & OIL HEAT, joined Paragon Oil Co., Brooklyn, N. Y., early in September. Burkhardt is supervising Paragon's oilburner service department.

(*Please turn to page* 40)

STOP LEAKY BAGS and BLOW-OUTS

Get the NEW SOOTMASTER *Furnace Cleaner*

with THROW-AWAY BAG!

• *Order from your jobber*

CLEANS FASTER—No bag to empty, shake or clean.
Soot is emptied from container into throw-away bag.
Easy to carry—weighs only 30 lbs.
Complete with 10 ft. hose, 27-in. cleaning tool, 10 throw-away bags and quick-release tie-cord.

$99.50

• *Write today for literature*
• *Jobbers' inquiries invited*

MASTER-CRAFT SUPPLY CO., INC.
HAVERSTRAW, NEW YORK

Originators and Manufacturers of THROW-AWAY FILTER BAGS for Commercial Vacuum Cleaners

V&E

SCHUYLKILL HAVEN, PA.

STEEL

BUILT TO LAST A LIFETIME UNDER ANY CONDITIONS

Water Tube BOILERS

FOR STEAM OR HOT WATER

¼" PLATE—¼" wall, TUBES

Qualified for A.S.M.E. Marking

Adequate and
Continuous Supply
of Domestic Hot Water

- **Fast Heating**
- **No Pulsation**
- **High Efficiency**
- **Easy to Clean**
- **Priced Right**

DOWN-DRAFT Water Tube Boilers

in **7 CAPACITIES** 480-2320 sq. ft. stg. H.W. or equiv. steam. (largest 55" high x 44" long x 22½" wide)

and a **PACKAGE** UNIT 480 sq. ft. stg. H.W. (with all controls mounted and wired)

also **3** sizes of Wallflame Boilers for Rotaries. (largest boiler diameter 25")

Here's a line of boilers that will go into any basement with ease and safety, and save half-a-day's installation cost. Designed and built by men with a lifetime's experience in automatic heating.

Write or Phone
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Editorial Leaks

GIVING ANOTHER twang to the old familiar string on our fiddle, we still believe that a fueloil distributor who has built a strong reputation for good service to his community can privately adjust his selling price to take a little more margin if he seriously needs it.

This whole topic was stirred up by some questions asked of our very co-operative monthly reporting group. The findings are covered in the "Oil-heating Trends" department of this issue. Then there are a couple of strong statements in our "Letters" department.

Some of the folks felt that we were advocating tight margins to avoid price cutting. That was not our intention.

Our annual studies for the January issue have repeatedly shown that as a fueloil distributor grows in size his costs per gallon go up. That's understandable . . . he's adding some kinds of overhead expense that he handled by himself when he was small.

A large marketer, on the average, needs more margin than a small one. If a company has grown large through good service and careful attention to its accounts it is well enough entrenched to charge a little extra for its product. We're not talking about excessive prices, but if a strong company needs an extra few tenths it should go after what it needs.

The small operator does not need as much margin to make a similar profit. He might logically be afraid to raise his price above the current postings, because he lacks the stature to carry it. On the other hand, we have seen instances where a strong fueloil outfit raised its price a little to gain more spread and in a very few months the whole market moved up to match it.

Folks in general like to be seen doing business with a well-known merchant and in most instances they will pay a mite extra for the privilege. If you have the courage to be actually an "independent" oil man, take the margin you need.

Even in a market where natural gas is cheap you're better off to charge enough to get in the money to do a strong promotional and advertising job for yourself.

❖

THERE'S NO EXCUSE for oilburner service men going around looking like the tail end of a mis-spent youth.

That thinking is not original. It comes from Al Woosnam of Southampton, Penna. There's a story about Al in this issue, about his preference for new home work.

In swapping gossip at the time of getting the story, Al said that he used to be a field service man for Quiet May. He went around all dressed up, right out to the field on trouble calls. He took off his coat, rolled up his sleeves and tackled anything a serviceman has to do.

For the rare case where he had to crawl he brought from his car a long light weight coat. His street clothes stayed clean at all times.

The best oilheating marketers know all of this and put their men in good looking uniforms. But too many still let them go around looking like the inside of a motorman's glove.

❖

A PENNSYLVANIA dealer complained to his oilburner manufacturer that a third of the burner pumps he was getting from him were bad. The manufacturer in turn phoned the pump factory with some uncomplimentary recommendations. Another long distance call to New York sent the factory representative of the pump company hightailing it out to the dealer.

He found the situation just as reported—a third were bad. He had gotten three ; one had sheared a pin.

❖

THE INSTRUCTOR IN the trade school was emphasizing to the boys that the one way to get ahead in business is to please the boss. Always be sure that you give him a little more than his money's worth and he will notice it.

The admonition was not lost on one student, who we will call Elmer because that is not his name. Elmer got a job as an oilburner mechanic but was such an eager beaver that he didn't fit well into teamwork, so the boss made him an oil truck driver.

Elmer got out almost twice as much oil in a day as anybody else. He always had the cleanest looking truck, and the first load out in the morning. Elmer would run through railroad gates with just inches to spare, and the railroad called his boss and asked that he be controlled.

When Elmer was going to make a delivery but couldn't get to the curb because of a car parked there, he would use his truck to push it out of the way. If there was no other way to make a delivery in a hurry he would never hesitate to back his truck up on the sidewalk to get it out of heavy traffic where he could not double park.

In making a delivery to one customer who owned a large estate, folks were surprised early one morning to see his truck come flying across the middle of a pasture with dairy cows scattering in every direction. It was shorter than going around by the road.

The boss called him in with some embarrassment to try and straighten him out. He knew that the worst thing you could do to a go-getter is to appear unappreciative. He explained to Elmer how wonderful he was but then started explaining the whole subject of public relations while Elmer sat fidgeting. After three minutes he jumped up, grabbed his cap and as he skidded through the door he called back: "Look boss, you can sit there and talk all day, but I've got to get some oil out." He dashed out the side door and by the time the boss got there his truck was half a block down the street going 60 miles an hour.

Deciding that Elmer would eventually ruin his business unless he could make a gentleman out of him, and recognizing his own inability to perform such an operation, the boss fired Elmer, but not until he had spent three days trying to catch him.

Bob Gray

YOU SAVE MONEY 'Round the Clock with Scully FUEL OIL DELIVERY AIDS

More profit or *no profit* in your fuel oil delivery operation? That depends on your use of *time!*
Why tie up costly equipment and man-hours in needless home entry, slow filling, spills, repeat calls . . . and tracking down complaints? Join those who control priceless minutes of the short heating season with Scully Fuel Oil Delivery Aids. Control your minutes, and you will control your profit.

SCULLY THROTTLE REGULATOR

For automatic control of fuel oil pumping speed.

4" square device easily installed under engine hood near carburetor.

Ends hand throttle adjustment and needless racing of truck motor and pump.

VENTALARM® Signal Model LA

For NEW tank installations. Threaded top and bottom. Variety of models and sizes.

VENTALARM® Signal Model LC

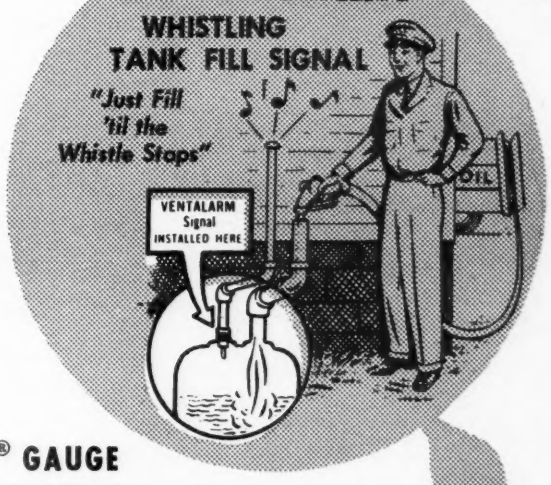
For OLD tanks in use. Compression fit top and threaded bottom. Variety of sizes.

SCULLY SPOUT

Sturdy, tapered spout. Companion piece to FasFill Connectors.

VENTALARM® WHISTLING TANK FILL SIGNAL

"Just Fill 'til the Whistle Stops"



FASFILL® CONNECTOR

Portable, hand tight connection for nozzle and fill pipe of all sizes. Speeds deliveries. Stops blowbacks. Diaphragm head holds weight of gun. Specify outside diameter of gun nozzle when ordering.

VENTALARM® Signal FOR HEAVY OIL 3-Piece Assembly Type C

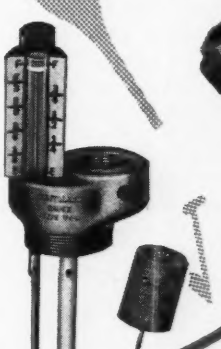
Consists of:

1. PRESSURE VENT CAP
2. REMOTE WHISTLE SIGNAL
3. INTRUSION

SCULLY® GAUGE

Big figures, readable at first glance. Face adjustable to any angle. Specify tank depth when ordering.

VENTALARM® GAUGE



Audible fill signal and gauge in one labor-saving unit for new tank installations. Goes on tank as integral part of vent pipe. Specify tank depth and opening when ordering.

"BUTTON-LIFT" Control of cork arm for easy installation of both gauges.

Scully Products are manufactured under U.S. and Foreign Patents and Patents Pending.

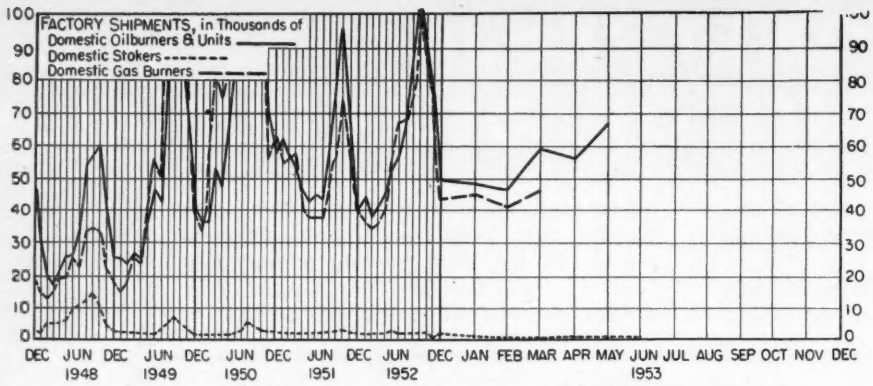
Canadian Licensee for Majority of Scully Products: EMPIRE BRASS MFG. CO., LTD., London, Ontario.

SEE YOUR REGULAR SUPPLY HOUSE
for VENTALARM Signal Products, Scully Gauge and FasFill Connector. Write manufacturer for information on Scully Throttle Regulator.

MEMBER OHI

SCULLY SIGNAL CO. 76 FIRST ST., CAMBRIDGE 41, MASS.

SCULLY SIGNAL CO.


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
Domestic Gas Burners
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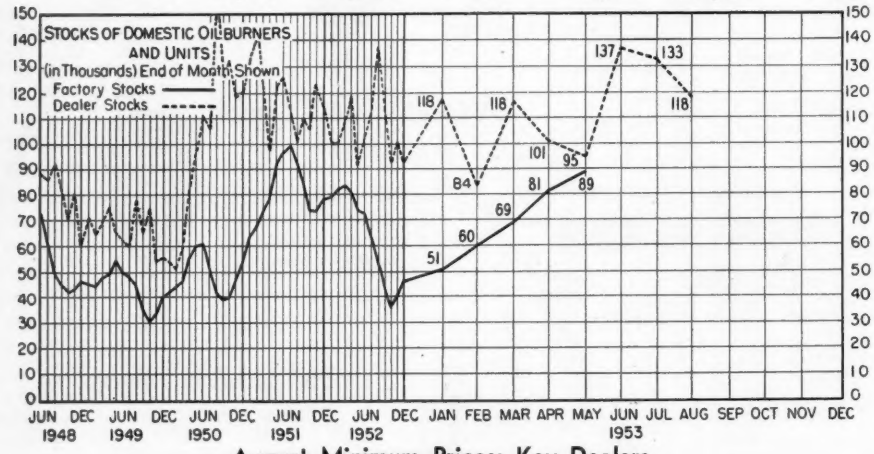
1948 1949 1950 1951 1952 1953

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	JUNE			SIX MONTHS		
	1953	*1952*	*Percent Change*	*1953*	*1952*	*Percent Change*
Conversion	50,071	37,935	+ 32.0	236,775	187,347	+ 26.4
Boiler Units	6,151	6,378	— 3.6	26,684	23,237	+ 14.8
Furnace Units	18,125	13,542	+ 33.8	78,139	67,145	+ 16.4
All Domestic	74,347	57,855	+ 28.5	341,589	277,729	+ 23.0
Commercial	3,983	2,844	+ 40.0	19,616	15,097	+ 29.9
Total	78,330	60,699	+ 29.0	361,205	292,826	+ 23.4


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1948 1949 1950 1951 1952 1953

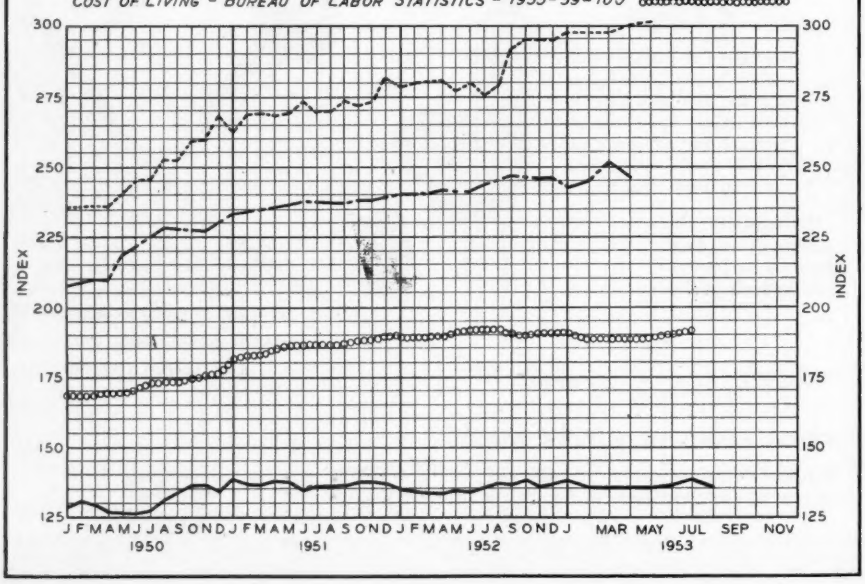
August Minimum Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
August	$318	$712	$638
July	320	710	636

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
August	134.9	Six months ago	144.3	August	134.9	Six months ago	135.6
July	139.6	Year ago	144.7	July	135.3	Year ago	137.5

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTRUCTION COSTS - RESIDENTIAL - DEPT OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
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1950 1951 1952 1953

Oilheating Trends

AUGUST INSTALLATIONS of domestic oilburners and units are estimated at 104,809 or 17% above the 89,632 installed in August last year. These installations were divided: New Homes, 31,845; Replacements of old oilburners, 7,723; Conversions from other fuels, 65,241.

Total installations for the first eight months of the year were approximately 420,068. Last year in the same period they were 398,269, so the industry to date is a little more than 5% ahead of last year. Factory shipments continue to run considerably more than that ahead of last year, but the comparisons will probably be reversed during the fall months.

BURNER STOCKS: Dealer warehouses on September 1 were holding approximately 118,551 domestic oilburners and units compared with 133,147 the previous month, and with 139,109 on September 1 last year. In other words the stock build up shows signs of moving out into the higher level of installations. The September 1 stocks were divided: Conversion oilburners, 71,034; boiler-burner units, 19,089; furnace-burner units, 28,428.

Factory stocks on June 30, latest available data were 89,350, compared with 89,024 the previous month and with 74,297 at the end of last June.

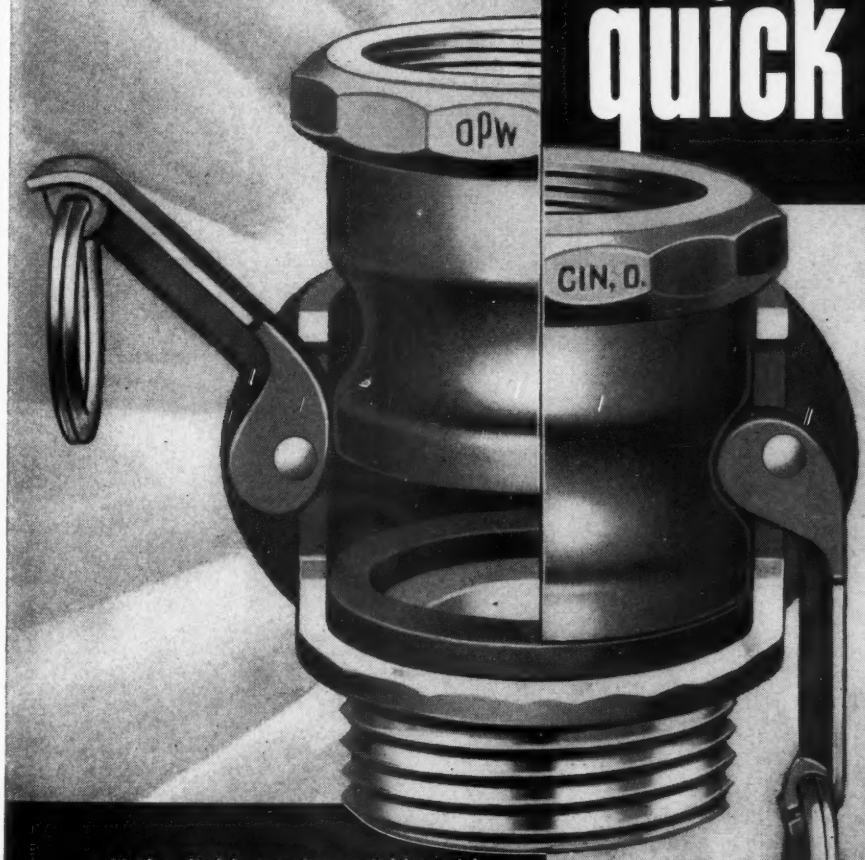
TANK STOCKS: On September 1 dealers were holding approximately 75,053 customer storage tanks. This compares with 83,560 the previous month, and 119,808 on September 1 last year. This decline apparently reflects the fact that steel is becoming quite plentiful, as also indicated by the fact that prices continue to drop. By sizes the September 1 stocks were divided: 220-275 gallon, 66,569; 550-675 gallon, 5,507; 1,000 gallons or larger 2,977.

The average price paid by dealers for a 275 gallon tank was down $1 in August to $33. By sections of the country we found these variations: New England, $30; Mid-Atlantic, $34; Midwest, $31; Pacific Northwest, $42.

SERVICE TRUCKS OR CARS: When the serviceman drives up to the customer's house he will be using a company-

The Fastest, Surest Coupling Known

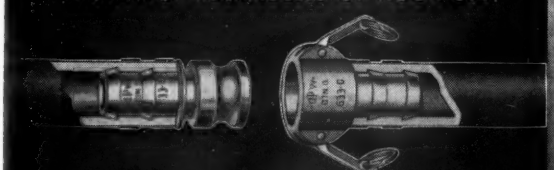
KAMLOK quick couplers



INDUSTRIAL HOSE LINES
TANK TRUCK
FUEL DELIVERY
MARINE SERVICE

Make field repairs quickly with this simple attachment of hose to KAMLOK shank type adaptor and coupler by using hose clamps. Leak-proof, light weight, easy to handle.

ALL KAMLOKS COUPLE AND UNCOUPLE INSTANTLY REGARDLESS OF HOOK-UP.



KAMLOK'S POSITIVE SEAL ALL ALONG THE LINE ASSURES GREATER SAFETY IN HANDLING ALL TYPES OF LIQUIDS.

Excellent hose has been condemned too often because of inferior couplings. To eliminate twisting, kinking, and straining, to add extra life and endurance to your hose use a good coupler . . . use KAMLOKS. Available in any combination to meet coupling requirements in sizes from ¾" to 3" precision machined of special hard wear resistant bronze. 4" size of OPALUMIN.*

**OPW hi-tensile aluminum alloy.*

FREE BULLETIN F-10 HIGHLIGHTS IN DETAIL KAMLOK's QUICK, TIGHT SEAL.

OPW CORPORATION
2731 COLERAIN AVENUE
CINCINNATI 25, OHIO

OPW CORPORATION FOR HANDLING HAZARDOUS LIQUIDS
OPW
VALVES • FITTINGS • ASSEMBLIES
CINCINNATI 25, OHIO

owned truck 54% of the time, or he will be using a company-owned passenger car 21% of the time, or he will be using his own passenger car 25% of the time. Those are the ratios determined by a study of the activities of the reporting group this month. If we assume that their activities are typical of the industry as a whole, which they probably are, we find that there are in use approximately 9,800 oilburner service trucks, 3,900 company-owned passenger cars employed in oilburner service work and 4,540 of the servicemen's privately owned passenger cars used for this work.

Averaging the whole group shows that there is one piece of automotive equipment used in oilburner service for each 346 customers on the average. Notice that the trucks counted in this study have a service emphasis rather than an installation emphasis. There would be quite a lot more than this total if you were to include the open-type trucks used to deliver the oil tank and the furnace.

Overlapping on Cars

There is considerable overlapping in dealer habits on service rolling stock. We find that 89% of the dealers have one or more trucks, 53% supply company owned cars, and 31% have the servicemen drive their own cars.

The group was then asked which of the three methods they consider the most economical. The result was rather surprising, with 64% voting for the truck as the cheapest to operate, 10% voting for the company-owned car and 26% favoring the privately owned car of the serviceman as the most economical. In other words quite a few more companies believe that the truck is cheapest to operate than actually do employ them fully.

When the dealer has the serviceman drive his own car he compensates him for this in one of several ways. Among the reporting group, where the men's cars are used, 70% have a straight mileage allowance and the average rate is 8¢. Another 10% of dealers where men's cars are used pay an average of 43¢ an hour for the car. Then 13% pay a flat weekly sum averaging $16. The remaining 7% of dealers using men's cars pay a flat monthly rate and the average here is $40.

Oilburner* and building Permits

OILBURNERS					DWELLINGS			
August		8 MONTHS			August		8 MONTHS	
1953	1952	1953	1952		1953	1952	1953	1952
38	54	199	296	Albany, N. Y.	..	..	..	..
172	271	788	1240	Baltimore, Md.	128	141	2696	2379
..	..	..	..	Binghamton, N. Y.	13	11	100	73
..	..	..	..	Bloomfield. N. J.	9	9	207	59
..	..	..	..	Boston, Mass.	47	56	253	435
143	93	838	507	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	56	46	370	403
78	18	211	368	Columbus, Ohio	..	..	..	..
..	..	..	..	Des Mo'nes, Ia.	777	54	2432	502
..	870	..	5302	Detroit, Mich.	234	278	2177	2920
52	44	297	296	Elizabeth, N. J.	3	19	28	62
39	12	229	243	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	21	38	..	272
..	..	..	..	Hackensack. N. J.	..	4	..	121
199	43	..	678	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
50	71	..	327	Irvington, N. J.	..	2	..	21
..	..	..	..	Lynn, Mass.	9	19	122	141
..	104	..	306	Meriden, Conn.	..	..	..	..
916	471	4683	2876	Milwaukee, Wisc.	369	256	2398	2006
22	58	..	629	Minneapolis, Minn.	116	127	..	754
27	31	153	178	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	9	1	63	38
41	38	233	218	Mt. Vernon, N. Y.	..	..	..	..
217	248	1231	1319	Newark, N. J.	..	..	..	..
77	59	456	774	New Bedford, Mass.	..	..	..	..
54	43	301	424	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
43	32	..	219	New Rochelle, N. Y.	35	20	328	173
..	6814	..	59174	New York City (total)	..	..	..	..
1693	6221	45578	54745	Brooklyn-Queens	..	..	..	..
..	593	..	4429	Manhattan, Bronx,Rchd	..	..	..	..
44	98	487	542	Norfolk, Va.	29	56	464	917
..	..	..	..	Oakland, Calif.	..	..	..	..
..	99	..	447	Omaha, Nebr.	..	90	..	797
19	28	128	146	Orange, N. J.	0	1	14	15
33	37	155	184	Passaic, N. J.	..	..	..	..
76	111	403	540	Paterson, N. J.	8	14	115	134
510	..	..	..	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Pla'nfield, N. J.	9	18	102	125
79	57	361	294	Portland, Me.	16	7	116	76
470	510	2533	3076	Portland, Ore.	152	153	1468	1007
22	19	144	112	Poughkeepsie, N. Y.	..	..	..	..
114	85	489	750	Providence, R. I.	24	13	143	128
..	..	..	..	Reading, Pa.	15	5	57	49
31	34	203	268	Richmond, Va.	35	70	362	441
67	50	..	340	Roanoke, Va.	..	..	..	..
386	435	1920	2182	Rochester. N. Y.	..	..	..	..
23	13	133	107	Rockville Center, N. Y.	5	11	73	51
43	54	222	217	Salem, Mass.	8	4	57	40
208	139	906	1043	St. Louis. Mo.	30	58	228	378
22	51	159	272	St. Paul. Minn.	93	181	822	869
16	9	137	239	Schenectady. N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	126	128	1189	1269
..	..	..	..	Springfield, Mass.	53	81	739	546
31	57	..	448	Stamford, Conn.	..	..	..	..
..	28	..	72	Syracuse, N. Y.	..	43	..	344
..	..	..	..	Trenton. N. J.	13	4	138	107
..	..	..	..	Utica, N. Y.	15	22	82	113
46	111	472	747	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	21	57	210	315
46	52	199	212	White Plains, N. Y.	29	14	188	101
51	77	502	457	Wilmington, Del.	6	16	86	156
129	182	855	1149	Worcester, Mass.	..	..	..	..
97	85	550	458	Yonkers, N. Y.	..	..	..	..
4101	3782	19894	21169	*Totals*	1709	1918	15121	15330
+8.4		—6.0		*Percent Change*	—10.9		—1.4	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

FUELOIL MARGINS: The reporting group of fueloil distributors were asked whether, considering all competitive factors in the market, they believed their present margins were about right. Voting yes were 54% of the group and the other 46% voted no. When they were reminded that the average profit on No. 2 oil in 1952 was .85¢ a gallon before taxes, they were asked if their present operations were showing more or less profit than that figure. Among the whole group

"It's the ideal control for modern living in today's new homes!"

says J. A. Diehl, president, John A. Diehl Co., Cincinnati

Dealer John A. Diehl (left) discussing Chronotherm with Honeywell sales engineer R. H. Baxter

"The control I'm talking about is, of course, the Honeywell Chronotherm.

"Whether he knows it or not (and sometimes you've got to point it out) the customer really wants to sleep cool, save fuel and wake in a warm house – all automatically.

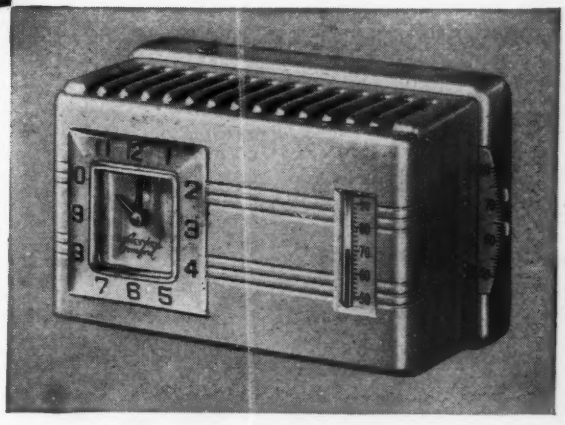
"It's as much a part of modern living as constant comfort – which can be provided only by an up-to-date heating plant and supersensitive controls.

"On all these modern comfort points, involving controls, the Honeywell Chronotherm rates A-1. In fact, for my money, it's the only control that meets them *all* so well.

"Which is another way of saying the Chronotherm is the only really modern indoor thermostat.

"And the Chronotherm gives trouble-free service and carries a good profit margin, too."

Another Plus-Profit Product from Honeywell



Sell the famous Honeywell Chronotherm!

Always offer it as an alternate on every bid you make. Latest surveys show that 3 out of every 4 families with thermostats raise and lower temperature settings every day, *by hand.* This represents a big potential market for dealers who sell the Chronotherm – because the Chronotherm *automatically* lowers the temperature at night and raises it in the morning. For full facts, call your local Honeywell office. Or write Honeywell, Dept. FH-10-167, Minneapolis 8, Minnesota.

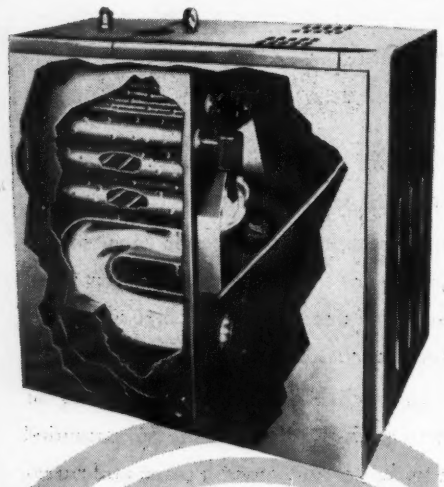
MINNEAPOLIS **Honeywell**

First in Controls

fueloil & oilheat

OHI

THE
NEW YORKER
HORIZONTAL BOILER
. . . offers you top efficiency and economy!



The NEW YORKER horizontal tube boiler provides top heating efficiency because of its scientific "three-pass" design, offering maximum heat transfer and lowest stack temperature. All heat passages are surrounded by heat-absorbing surfaces. Beautifully jacketed in blue-and-gray hammertone finish.

- Oversize, large capacity tankless water heater.
- Fire-tubes of extra heavy gauge steel.
- Pre-cast combustion chamber withstands temperatures up to 3200° F.
- Fire-tubes easily accessible.

Send coupon NOW!

New Yorker Steel Boiler Co., Inc.
Colmar, Penna.

Gentlemen:
Please rush me full information and prices on the New Yorker horizontal tube boiler!

Name .....
Street .....
City ..... State .....
Type of Business .....

51% said they are making a larger profit and 49% a lesser one.

Then they were asked if they considered .85¢ before income tax to be a suitable profit under today's competitive conditions and only 37% voted "yes" while the other 63% voted "no." Those who thought .85¢ profit before tax was too small were asked what it should be. Most of them mentioned a figure only moderately above that point and the average for the lot was 1.09¢ per gallon profit before income tax.

This study discloses a rather interesting shift in psychology of the local distributor. When we asked similar questions some four years ago we found that around 9 out of 10 marketers felt that their margins were about right considering competitive conditions. Their net profit per gallon today is actually a little higher than it was that time.

Feeling on Margins

Two things apparently are affecting their present feeling. They are constantly being pushed into higher operating costs on almost every item in the budget. They develop a feeling that their own margins change very slowly while their changes in cost are being brought to their attention every three days. In the second place the published earnings figures of the supplying companies frequently remind the marketers that the refiners' profit in per cent of sales is much greater than theirs.

Whether or not these are the reasons it is fairly clear that the fueloil distributor is less happy with his lot than he was a very few years ago.

FUELOIL STOCKS: Stocks of distillate fuels at the refineries, terminals and in transit on September 5 were 104,208,000 bbls. East of the Rockies, compared with 93,877,000 bbls. on the corresponding date last year.

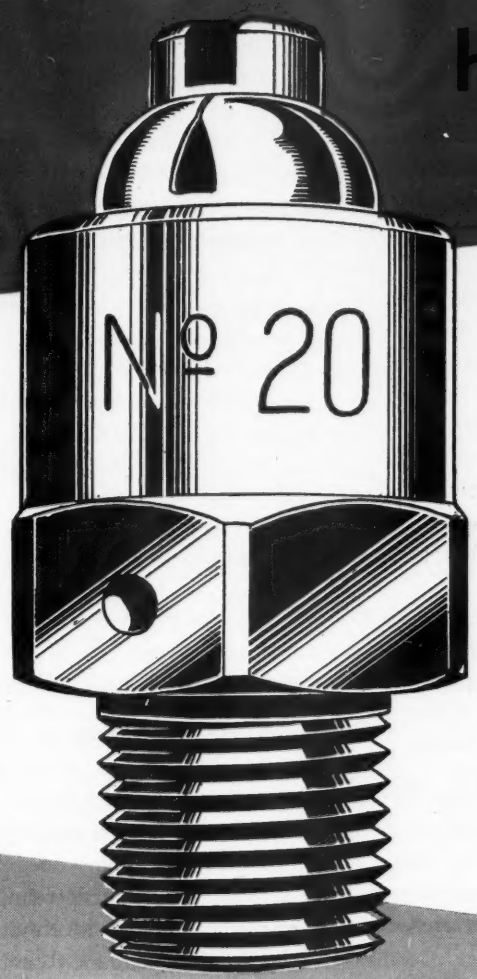
The area with a problem, as we have previously mentioned, appears to be the Midwest where current stocks of 34,895,000 bbls. are lower than they were a year ago while the winter demand will be much greater. That section of the country will need an additional 4.5 million barrels for a weather adjustment alone assuming we have a normal winter. Then the industry must assume at least 10% more oilburners in use than they had last year, so it is high time for a stock buildup. There is no threat of anyone going cold but there is a threat of uneconomic transportation from the Gulf or East Coast into the Midwest area.

Secondary distillate inventories on July 31, the latest available data, were 16,447,000 bbls. in the nation compared with 17,761,000 the previous year. Again the Midwest is down substantially from the same date in 1952.

Comments

DEALER COMMENTS: The following are typical: "Gas competition is cutting terrifically into new burner sales, yet the majors hiked the price of oil this summer" . . . "The major companies should not deliver oil to commercial accounts at a price lower than our purchase price" . . . "A profit of 1¢ per gallon after taxes would be right in our thinking if service losses have been deducted before" . . . "Our margin for 275 gallon tanks is OK but the margin on larger tanks is ½¢ less due to immature thinking of the industry" . . . "When the retail price of oil is increased the wholesale price nearly always goes up the same amount so our margin stays the same" . . . "Fueloil margins are not adequate to attract and develop proper supervisory and administrative personnel; as oilheating becomes bigger business it needs bigger men" . . . "On fueloil margins, the peddler with no overhead is ruining the price structure for those with a plant and storage" . . . "Why don't the oil companies do something about this new oil that keeps the tank clean but attacks the metal" . . . "Getting good servicemen is a very serious problem" . . . "Outlook for future very good as now have two months' work lined up ahead" . . . "On the basis of proposed new price schedules we will have this fall a profit of 1¢+" . . . "There has been no increase in natural gas rates since 1935 in our market" . . . "Let's keep shouting this: ½¢ per gallon would allow us to give free service; the gas companies can do it, so can we. A good customer would much rather have good oilburner attention than a cut in the price of oil."

for the best in hot water heating



use DOLE No. 20

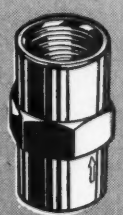
FULLY AUTOMATIC HOT WATER AIR VALVE

The new Dole No. 20 Hot Water Air Valve is the ideal vent for hot water heating on either forced or gravity circulation systems.

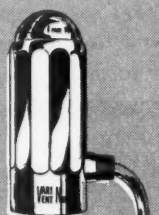
The Dole No. 20 can be easily installed on baseboards, radiators, convectors and high points. It vents the air automatically.

For the latest and finest in hot water air valves, investigate Dole today. Write for details.

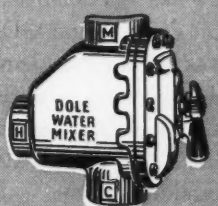
Some Favorites from the Great Dole Line of Controls for Plumbing and Heating



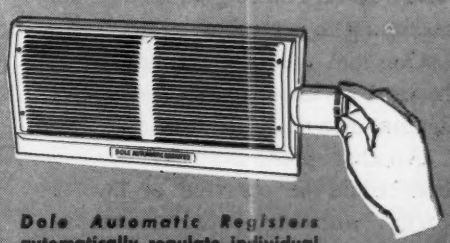
Dole Flow Control Valve gives constant flow regardless of water pressure. Ideal for tankless heaters.



The Dole 1A Vari-vent Valve for instant venting of one-pipe steam heating system. Can be easily adjusted to desired venting speed.



The Dole Water Mixer is installed with tankless heaters and storage tanks for more usable domestic hot water. Reduces scalding danger.



Dole Automatic Registers automatically regulate individual room temperatures for new or existing forced warm air heating systems. Just dial your favorite temperature.

Control with Dole TRADE MARK

DOLE

THE DOLE VALVE COMPANY
1933 Carroll Ave., Chicago 12, Ill.

Representatives in Principal Cities

Government Influences on Fuels

by
Milburn Petty

WASHINGTON — The government's proposal that a "Giant Inch" pipeline system be built to help supply the East Coast in event of an emergency has implications for the oil heating business—in both peace and war.

The idea, in its early stages, was that two lines be built by private industry—with capacity totaling about twice as much as the Big Inch lines of World War II.

One line would originate on the Texas Gulf Coast, capable of transporting nearly 600,000 barrels daily of crude oil.

The other project—a line that could be used for refined products — would start in the Middle West, perhaps near St. Louis.

Its capacity would be something over 400,000 barrels daily.

Obviously, any increase in oil transportation facilities to the Eastern Seaboard for wartime would lessen the need for stringent rationing of civilian use of fueloil and gasoline.

Peacetime Use of Line Cited

But the big question is what to do with these huge pipelines in peacetime.

If either line was put into full-scale operation in normal times, the effects would be far-reaching on refining and marketing in several areas.

One idea was that the lines might be used to store fueloil or crude oil against emergency requirements.

Another possibility was that the lines could be operated at low capacity, with high-powered pumping equipment standing by to call upon in an emergency.

Still another thought was that these lines might be equipped for oil use in wartime and gas use in peacetime.

East Coast Transport Studied

Studies indicate that, after taking into account the maximum use of tank cars, tanker availability, reversal of some oil pipelines, conversion of the Big Inch and Little Big Inch back to oil service, and other emergency measures, there would be need for something like a million barrels more capacity to the East Coast.

The Big Inch lines, built by the government in World War II as oil carriers, were sold for gas use on condition that they be kept in readiness for conversion back to oil, if needed.

Until recently, it was thought that conversion of the Big Inch lines to oil was impossible for all practical purposes because the present gas customers would have to be cut off.

Recently, however, there has been talk that the Little Big Inch, at least, might be available for peacetime oil use if Texas Eastern Transmission Co. could obtain approval for additional gas capacity.

Both of the Big Inch lines are "small" now in relation to gas transmission lines built more recently.

ODM Sets Oil Expansion Goals

Oil expansion goals set by the Petroleum Administration for Defense are not high enough either for basic refining facilities or petroleum storage, according to the Office of Defense Mobilization.

As revised upwards by the ODM, refining goals now are 8,500,000 B/D by the start of 1955 and 8,900,000 B/D by 1956. ODM wants 70,000,000 barrels of tankage added in 1954 and a like amount the year after.

On drilling, the ODM agreed that it was pointless to hang up a formal goal (with steel plentiful) but suggested that the PAD urge the industry to drill 49,000 wells in 1954 and 50,000 the following year.

'Don't Relax on Oil Expansion'

ODM is going along with PAD's goal of 7,250 miles annually in 1954 and 1955 but slightly reduced the goal of 26,350 miles of gas pipelines to be added annually in 1954 and 1955, to bring this goal into line with pipe availability.

The ODM said PAD was "too optimistic" in holding that emergency military requirements could be met by conservation and rationing of civilian use of oil—so as to provide time for expansion of productive capacity required for a longer period of hostilities.

It was pointed out to the PAD that this view contradicted earlier findings by the petroleum administration.

So, the ODM told PAD, there should be no relaxation in the effort to obtain greater security in petroleum supplies for defense.

Independent producers, meanwhile, have expressed doubt that the drilling goals will provide the reserve productive capacity—not just shut-in production caused by "excessive" imports —needed for defense.

Instead, the Independent Petroleum Association of America says, there should be 52,000 wells in 1953; 55,000 in 1954; and 58,000 in 1955.

PAD's latest estimate was that something over 48,000 wells would be drilled this year. In 1952, there were over 45,800.

PAD Studies Refiners' Plea

The PAD, according to Interior Secretary McKay, is studying the problems involved in expanding refining capacity faster than needed to meet civilian requirements.

The matter of reserve refining capacity was brought to McKay's attention by the Independent Refiners Association of America.

Any effort to increase capacity beyond current levels, as urged by the ODM, "can scarcely be successful unless a mechanism is provided to relieve refiners from the existing economic pressures currently driving the independents to the wall," said M. S. Robineau, Denver, IRAA's president.

Higher Gas Price Threat Seen

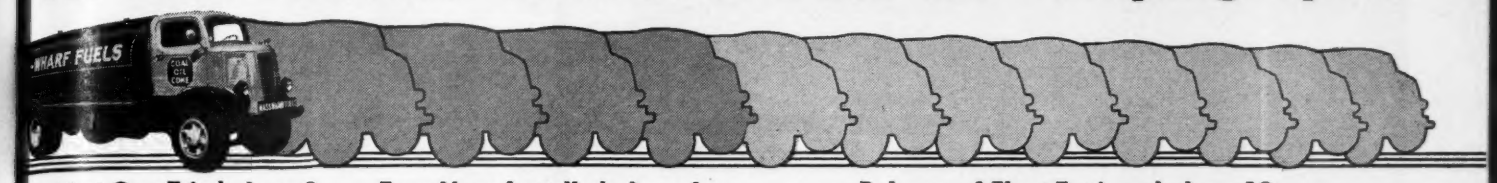
Nelson Lee Smith, FPC member, says the rising trend of natural gas prices in some producing areas has been "accelerated" by the competition of gas utilities buying direct from producers.

Also, Smith fears that secondary "favored nation" gas contracts—relating prices to the highest paid by other purchasers in the same area — may cause a spiraling of gas prices paid the pipelines.

Smith expressed these views in his dissenting opinion opposing the export of gas to Canada.

The New Scully THROTTLE REGULATOR*

for AUTOMATIC Control of Fuel Oil Pumping Speed

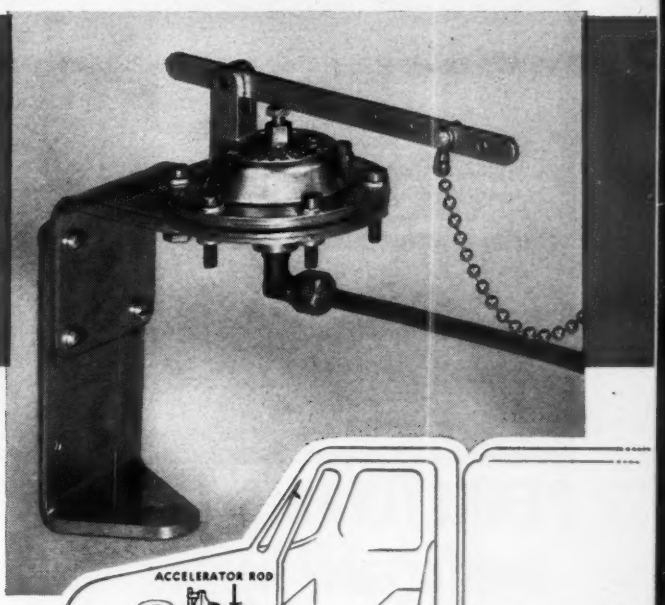


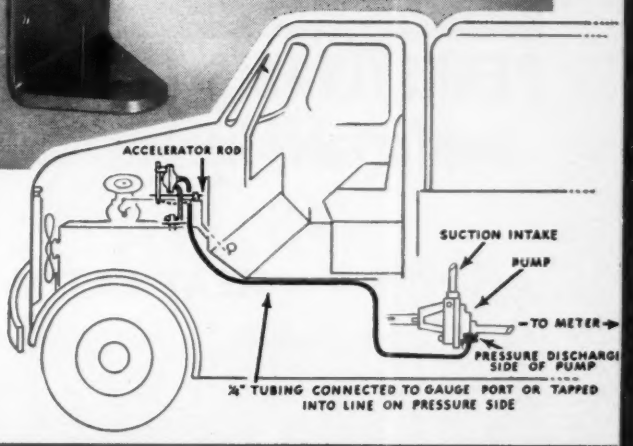
First One Tried, June 8 **Four More Installed, Aug. 6** **Balance of Fleet Equipped, Aug. 10**

Throttle Regulator purchase sequence at Mass-Wharf Co., Cambridge, Mass.

TO TRY ONE IS TO BUY ONE...

for Each Truck in Your Fleet!




ACCELERATOR ROD
SUCTION INTAKE
PUMP
TO METER
PRESSURE DISCHARGE SIDE OF PUMP
¼" TUBING CONNECTED TO GAUGE PORT OR TAPPED INTO LINE ON PRESSURE SIDE

● Eliminate Engine and Pump Racing

For years, fuel delivery truck equipment has suffered costly wear and tear from engine and pump racing. It is just impossible for a chauffeur to adjust the hand throttle quickly and easily to give the best pump speed efficiency.

Truck vibration can change a throttle adjustment. The chauffeur uses clothespins, elastic bands, notches, etc. to keep it in place. Or else he is forced many times to walk back to his truck to make a readjustment.

If a truck has no hand throttle, sometimes the carburetor is set up to control pumping speed. This causes too fast engine speed for traffic stops and hard gear shifting.

Now you can eliminate these time and equipment-wasting irritations.

● Control Throttle Adjustment Automatically!

Get positive, consistent and proper pump speeds with Scully Automatic Throttle Regulator. Your delivery pumping can be regulated at the time of installation to any speed you wish within the limits of the pump maximum efficiency — and it will stay the same, day in and day out!

● How Scully Throttle Regulator Benefits You

1. Eliminates manual adjustment of hand throttle.
2. Eliminates need for ever setting up carburetor beyond normal traffic idle.
3. Automatically adjusts engine speed for proper maximum pump efficiency.
4. Eliminates motor and pump racing.
5. Automatically starts to work when power take-off is engaged.
6. If compartment runs dry, engine automatically returns to idling speed with resultant decrease of pump speed.
7. At transfer to new compartment, engine speed automatically increases to give proper maximum pump efficiency again.
8. When power take-off is disengaged, engine speed decreases to normal traffic idling speed.

It Does Not Affect Throttle Operation During Driving

*U. S. Patent No. 2,634,681. Foreign Pats. Pend.

TRY ONE NOW! MONEY-BACK GUARANTEE!

You will want to see for yourself how Throttle Regulator benefits YOUR operations. We'll make it easy for you to try one.

HERE'S OUR OFFER

Order and install just ONE Scully Throttle Regulator on a truck operated by a chauffeur in whose judgment you have confidence. Have him report to you after six days' use. If for any reason you are dissatisfied with Throttle Regulator, return it to us at any time within 30 days of the date of our original invoice and we will REFUND YOUR MONEY. This offer is effective through Dec. 31, 1953.

Of course we believe your satisfaction will be so great as to cause you to order ADDITIONAL units! Throttle Regulator costs only $29.50 f.o.b. Cambridge, including mounting brackets, all installation parts, and complete instructions.

To Scully Signal Co., 88 First St., Cambridge 41, Mass.

I wish to order ONE Scully Throttle Regulator on your Money-Back Guarantee offer.

Company Name_____

Address_____

_____

Your Name_____ Title_____

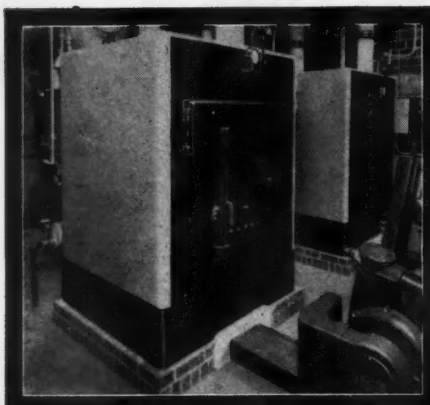
SCULLY SIGNAL COMPANY

MEMBER OHI INSTITUTE OF AMERICA

76 First Street, Cambridge 41, Mass.

Makers of VENTALARM® Signal Products

SCULLY SIGNAL CO.

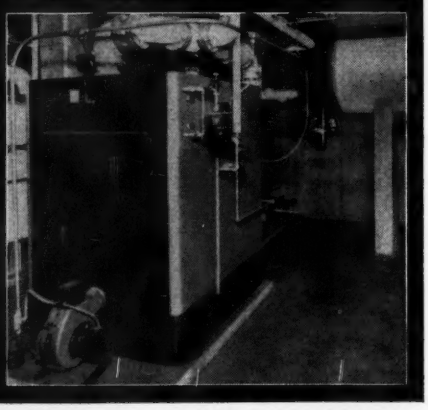


Typical maintenance building with office space, storage rooms, tool shop, locker room, ambulance garage and maintenance area.

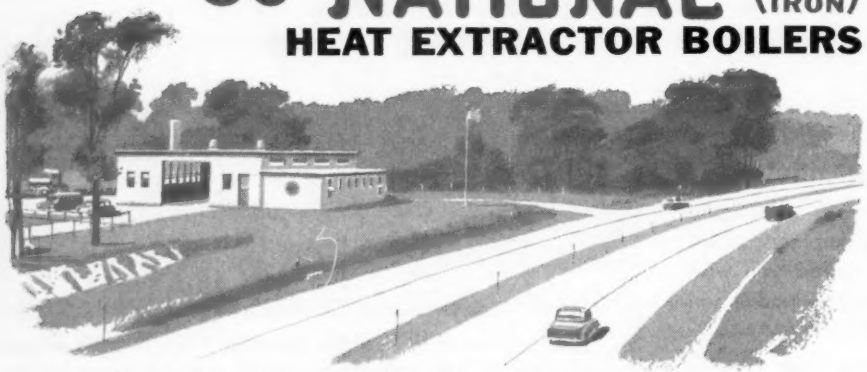
NATIONAL Boiler (oil-fired) installed in Turnpike Restaurant Building.

NATIONAL Boilers (anthracite coal, stoker-fired) installed in Turnpike Maintenance Building.

Restaurant buildings requiring large volumes of hot water are supplied by steam-water heat exchanger in the boiler room.



PENNSYLVANIA TURNPIKE BUILDINGS
comfortably heated round-the-clock by
36 NATIONAL (CAST IRON)
HEAT EXTRACTOR BOILERS



Section of Pennsylvania Turnpike showing a maintenance building and area.

Architects: J. E. Greiner Company, Baltimore, Md. *Heating System Designers:* George & Hartman, Baltimore, Md.
Heating Contractors: W. L. Ramsey, Harrisburg, Pa.; J. J. Betke, Beaver Falls, Pa.; John Galbreath, Pittsburgh, Pa.

Heating comfort is assured in the restaurant, maintenance, utility and toll gate buildings on the famous 327-mile Pennsylvania Turnpike. Maintenance buildings are supplied with adequate heat to thaw cinders by the truckload. Abundant domestic hot water is also furnished by tankless water heaters for washrooms . . . and, in the restaurants, boilers heat water for dishwashing.

Heat Extractors along one stretch of the Turnpike are oil-fired . . . the others are anthracite coal, stoker-fired. Convectors, unit heaters and radiant panels are used for heat distribution.

Send for details about National Heat Extractor Boilers . . . sizes available for all applications—from small homes to large buildings.

Write for bulletin No. 586-10-FO

THE NATIONAL RADIATOR COMPANY
JOHNSTOWN, PENNSYLVANIA

Letters

NATIONAL HEAT & FUEL CO.
Camden, N. J.

Editor:

I am surprised and bewildered when you infer in your recent survey that local competitive conditions must control the level of margins, which sounds like the battle cry of the refining companies themselves.

As a means to an end, thus justifying the means, the refining companies, not only controlling the retail prices in New Jersey, also set the complete cartel and monopoly up by telling the dealer and distributor how much he has to pay for the fueloil. Then to top it off in fine style, the refining companies, with a lot more spread than the little man, spend thousands on radio, newspapers and men on the street, pushing fueloil sales for themselves.

Our company sells service plus product, not cut prices. This mistaken propaganda starts with the big refiners who are also in the retail end and then everybody joins in with the same cry. Sure, there are such cases but more the exception rather than the rule. We started with 260,000 gallons the first Winter in 1946 and are now 4,000,000 gallons. I can count on my fingers the accounts with special discounts. We grew in spite of the refining companies and not because of them.

If a fueloil company sells only fueloil and not service, your consensus may fit but not a bonafide organization selling the complete services.

EDWARD W. SALINE

❖

MONARCH FUEL OIL CO.
Elizabeth, N. J.

Editor:

Regarding your survey question on margins, we feel that margins should be adjusted on the basis of the dealer's storage and manner of buying.

In our area a dealer without storage facilities but operating 3,000 gallon trucks can buy oil cheaper than we can, despite the fact that we operate a barge plant storing more than a million gallons of product.

We sincerely believe that the old

for LOW COST SERVICE

Buy Taco

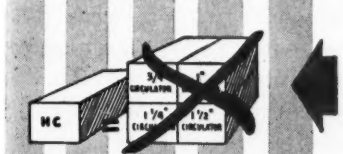
Ruggedly Built CIRCULATORS

SAVES YOU MONEY THREE WAYS:

¾"—1" } Full 1½" capacity for all sizes
1¼"—1½" }

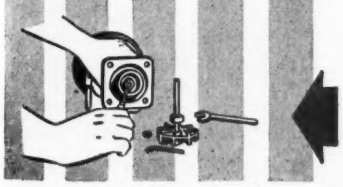
EXTRA CAPACITY

Taco circulators have that extra capacity needed for today's modern small pipe radiant heating jobs (panels, convectors, radiators or baseboards).



LESS AND MORE FLEXIBLE INVENTORY

Interchangeable flanges mean one circular plus four sets of flanges (¾", 1", 1¼" or 1½") equals four sizes of circulators in stock.



A CINCH TO SERVICE

All you need is an open end wrench, screw driver and allen set screw wrench.

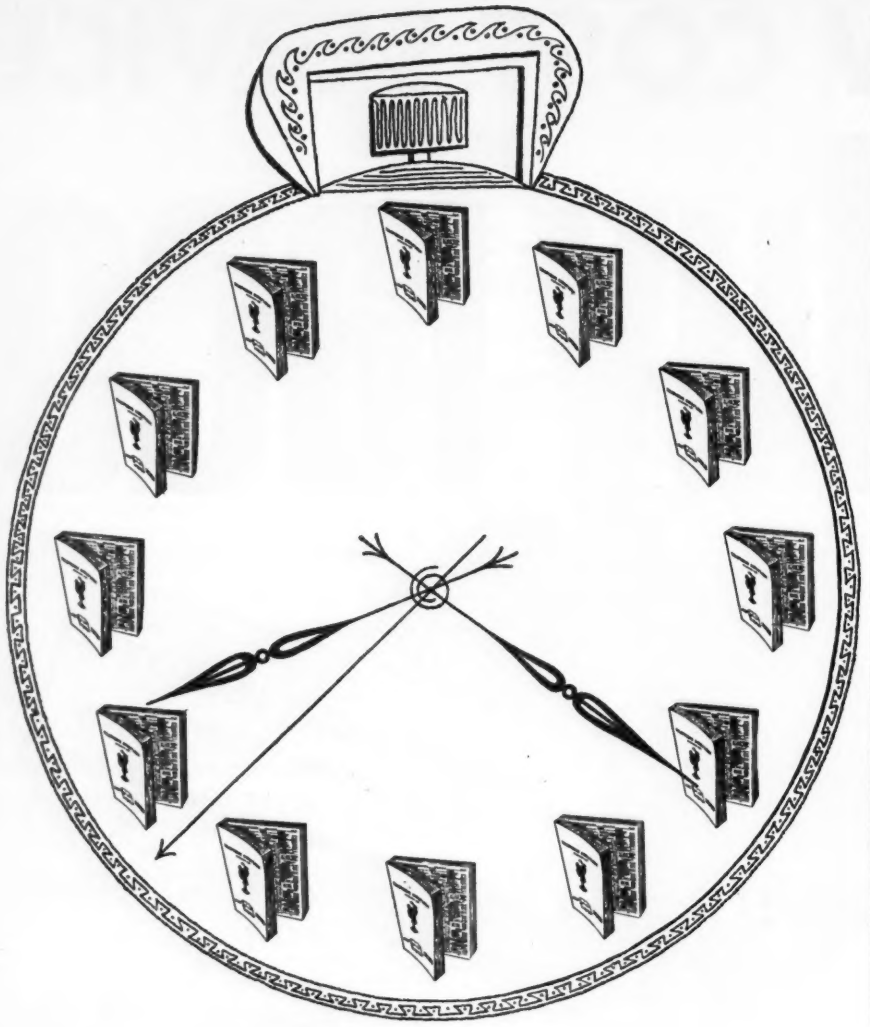
Get more information today about Taco's increasingly popular circulators. New users are enthusiastic because Taco is the BIG-VALUE of our industry.

Better Heating—Better with Taco

Taco

TACO HEATERS, Incorporated
137 South St. • Providence 3, R. I.

fueloil & oilheat



24-HOUR SALESMAN . . .

the 'yellow pages' of the telephone directory

Here's the salesman you've dreamed about . . . one who is always ready to work around the clock!

Your local Classified is on duty at all hours of the day and night . . . whenever a prospective customer looks for information. And surveys prove that 9 out of 10 people do look in the 'yellow pages' before they buy.

Put the 'yellow pages' to work selling for you—today!

AMERICA'S BUYING GUIDE FOR OVER 60 YEARS

For further information, call the Classified Directory Representative at your local telephone business office.

cry, "more margin, more price cutting," is without basis in fact. Thanks to the efforts of FUELOIL & OIL HEAT, the average dealer is pretty much aware of his costs. The primary cause of the price cutting that does exist is putting the "peddler" in a good buying position. Plant operators today cannot afford to cut prices as they have been operating too long at a disadvantage.

Price cutting can roost on the doorstep of many of our primary suppliers who resort to the practice of bulking small pickups to meet the 3,000 gallon tank car requirement.

LEO D. KRAMER
Manager

❖

THE COVINGTON HEATING CO., INC.
Covington, Kentucky

Editor:

FUELOIL & OIL HEAT has been received regularly and read consistently by the members of our company. Of particular interest to myself was the article on page 55 of the July issue in which the dealer and heating man is told how to merchandise successfully in competition with gas.

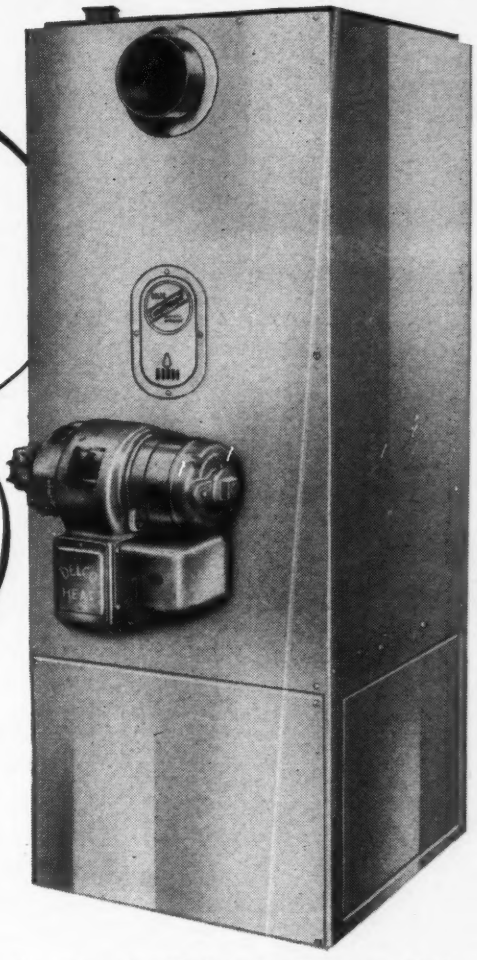
Gentlemen, your story may have some merit as applied to selling in the New York City area where the use of oil for heating has been accepted for years; however, this story would be worth very little if applied in the Greater Cincinnati area consisting of approximately 750,000 people. In fact, the sixth paragraph of your article seems to indicate a willingness on the part of the oilheating dealers to accede to the gas company without much further fight.

The entire picture, as viewed by many of our local heating contractors, seems to be that the oilheating industry is taking what business is handed to it on the well-known "silver platter," but as far as adopting an aggressive sales attitude, well—the oil industry as an entirety just doesn't have the backbone.

The writer of this letter, before becoming president of this company eight years ago, was engineering supervisor for the Cincinnati Gas & Electric Company, our local public utility. For a period of sixteen years

Lowest priced Delco forced air furnace ever made means profit sales to builders!

NEW **DELCO-HEAT**
OIL-FIRED FORCED AIR FURNACE
FEATURES NEW, MODERN,
MASS PRODUCTION
WRAP-AROUND DESIGN FOR
LOWEST BIDDING PRICE
EVER OFFERED
DEALERS!



Costly frills and extras
eliminated without sacrificing quality

Here's the Delco-Heat answer to builders' need for a lower-priced heating plant that will permit them to make profitable installations and offset rising costs. With this unit you have a real sales-making bidding price for builders, with proper profits for you, and you can still guarantee real comfort, economy and service-free operation.

The value-leader OBC75-H Oil-Fired Condition-air has exclusive new wrap-around steel cabinet with Delco Green enamel finish. The 16 ga. steel Heat Transfer Unit is seam welded to eliminate combustion leaks. The Circle-Air Radiator adds an extra heating surface—improves efficiency. Other great Delco features are the Quik-Action stainless steel combustion chamber; Delco-Heat Pressure Oil Burner powered by the vibration-free Rigidframe Motor; Centrifugal Blower; replaceable air filter; wrap-around wipe sheets; knockouts in side panels that permit installation of filter at either position; and base pan with knockout for floor return.

Similar in every detail, the new Model GBC90-H also meets the builder demand for a value-leader Gas-Fired Conditionair. Both models are shipped assembled for easy installation.

For more information, write or wire: Delco Appliance Division, Dept. FO, General Motors Corp., Rochester 1, N.Y. In Canada: Delco-Heat, Toronto 13, Ontario.

For a good deal-
DEAL WITH DELCO

GENERAL MOTORS
DELCO-HEAT

General Motors Engineering
Delco Production Skill

...your keys to Sales Success

. . . a complete line of automatic oil- and gas-fired conversion burners, Conditionair forced warm air furnaces, boilers, and electric water systems

fueloil & oilheat

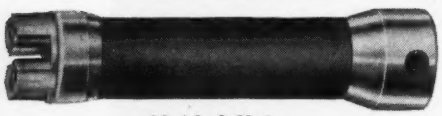
FINEST COUPLINGS AVAILABLE

BY

Guardian

"Silent Tension"
SPLINED SLEEVE COUPLING

Set Screw Type
FLEXIBLE COUPLING



Molded Nylon
JAW TYPE COUPLING

Now, Guardian offers you your choice of three types of couplings! The most complete coupling line produced for the Oil Burner Industry. And Guardian quality insures that whatever type you select, you know you have the finest coupling available.

Guardian "Silent Tension" extruded aluminum splined sleeve couplings provide clearance for rapid assembly and snug fit for reduced wear.

"Dyna-Line" fabrication, an exclusive Guardian process, aligns end fittings and flex-elements for a quiet, true-running drive.

The new Guardian Jaw Type* Nylon end fitting makes for **faster, easier** location and mounting—in the field and on the assembly line. Long wearing DuPont Nylon end fitting means new, long **trouble-free** service life. Fits any jaw type blower wheel.

*Patent Pending

Send for Guardian Catalogs C-101 and C-104.

Use Guardian Couplings
Guardian Quality is True Economy

HANDY SERVICEMEN'S KITS

Two sizes — Standard and Economy assortments. Steel case. Applicable OEM length couplings and bushings to meet 99% of service needs.

Guardian
QUALITY OIL VALVES

Built right for the oil heating industry from the inside out! Send for Bulletins V-101 and V-101-A.

Guardian
PRODUCTS CORP.
COUPLING DIVISION

Dept. F-103, 1231 E. Second Street

Michigan City, Indiana

I had the pleasure of seeing what an aggressively-minded industry can do when it goes after business.

Beginning with practically little or no space heating, the gas company has built their heating business to proportions never dreamed of by the gas company in their fondest dreams a few years ago.

With gas heating restricted to almost the elimination point there exists a tremendous potential automatic heating market that is open to the aggressive.

From an industry-wide viewpoint, the oil industry has done nothing to obtain this local business. A small amount of advertising has been done, some by heating contractors and some by oil suppliers. But, as compared with the efforts exerted by the gas company when it went after business in a salesminded manner, well, your efforts are pitiful indeed. The market exists, why don't you want it?

EDWARD B. THOMPSON

❖

OHI designates 1954 Show as Indoor Comfort Exposition

THE 1954 SHOW being sponsored by the Oil-Heat Institute of America, Inc., New York 36, N. Y., has been designated the National Indoor Comfort Exposition, Heating and Cooling. M. J. Donahue, chairman of the Convention and Exposition Committee, announced the selection, explaining that the name will make it all-inclusive for year-'round airconditioning.

Commercial Museum, Philadelphia, Pa., will be the site of the Exposition and the Institute's 32d annual convention, to be held concurrently. Dates are May 16, 17, 18, 19 and 20, 1954. An announcement describes the Exposition as "A bigger show than the one in 1952, the best in industry history, is in the making but there will be no increase in price of space. Cooling will be featured along with automatic oil-heating."

Brochures containing floor plans and space offerings are about ready to be distributed. As in previous years, OHI members get first pick of available space, next former exhibitors and others.

PASS ALONG THIS COPY

Did you notice on the front cover a new box marked "Pass Along?" May we suggest that you provide your mail girl with a list of your men who should see the magazine, and ask her to fill in the names when she gets each copy?

The purpose is to keep the boss from monopolizing the issues . . . one of the complaints we often get.

Census Report gives final factory burner Shipments

THE BUREAU OF THE CENSUS lists final factory shipments of oilburners during 1952 in the Facts for Industry Series M51N-02 on Heating and Cooking Equipment. Unadjusted Census figures show a total of 744,619 residential oilburners and units, divided: Low pressure atomizing, 59,287; high pressure atomizing, 624,678; pot mechanical-draft vaporizing, 13,270; other types, 47,384. This total compares with 661,251 residential burners and units shipped during 1951.

In addition, the report shows also that there were 36,417 commercial and industrial burners shipped: Low-pressure atomizing, 15,747; high pressure atomizing, 11,766 and rotary atomizing, 8,904. In 1951 the Census reported 40,565 commercial-industrial burners and units shipped.

Separate residential burners, according to the Census, amounted to 504,557 shipped from factories during 1952, 454,460 being high pressure atomizing and 50,097 classified under "Other, including pot mechanical-draft vaporizing." There were 176,354 furnace-burner units for residential use shipped during 1952, compared with 140,389 in 1951. Last year's shipments were divided: High pressure atomizing, 124,589; pot mechanical-draft vaporizing, 7,956 and other, 43,809.

Boiler-burner units accounted for a total of 63,708 shipped for residential installation during 1952, 45,629 equipped with high pressure atomizing oilburners, the balance with other types, including low pressure atomiz-

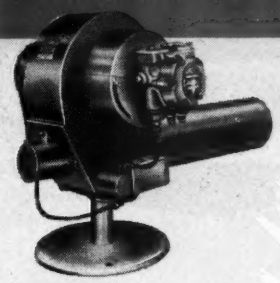
Wherever You Need BURNERS of BETTER QUALITY for BETTER PERFORMANCE

CHOOSE SUN-RAY

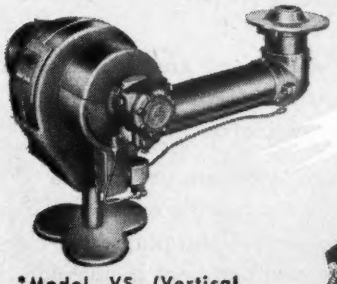
Way ahead with extra values

FOR EVERY HEATING NEED FROM 0.5 TO 25 G.P.H.

*Model S Burner with special aerodynamically designed housing for famous fuel saving "Shell" Combustion Head; 0.7 to 2 g.p.h.

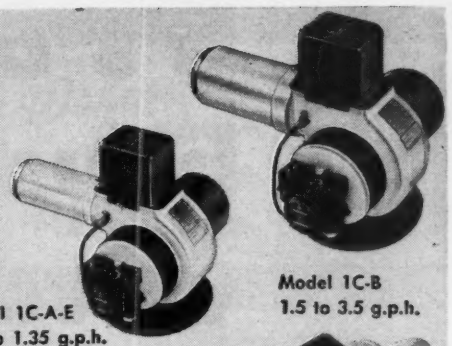


*Model S-1, with special aerodynamically designed housing for famous fuel saving "Shell" Combustion Head; 2 to 3 g.p.h. Model S-2, 3 to 6 g.p.h.



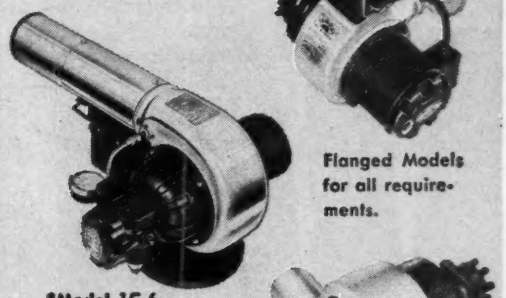
*Model VS (Vertical Flame), with special aerodynamically designed housing for famous fuel saving "Shell" Combustion Head; 0.7 to 2 g.p.h. Model VS-1, 2 to 3 g.p.h.

*Delayed action oil valve mounted and wired. Available on other models as an extra. Built-in electronic controls optional on all models.



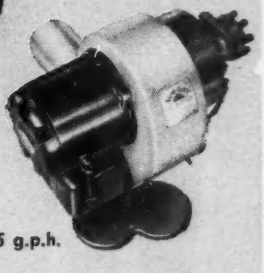
Model 1C-A-E
0.5 to 1.35 g.p.h.
Model 1C-A
0.75 to 2 g.p.h.

Model 1C-B
1.5 to 3.5 g.p.h.

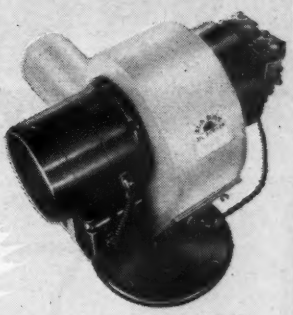


Flanged Models for all requirements.

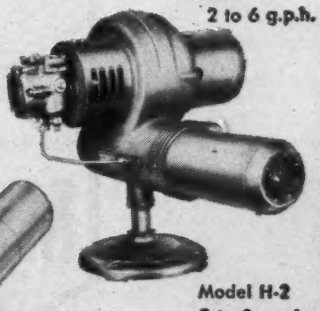
*Model 1C-6
3 to 6.5 g.p.h.



Model G
0.75 to 2.5 g.p.h.



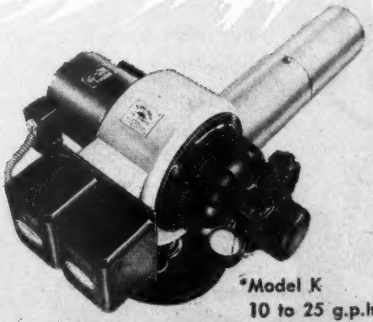
Model H
2 to 6 g.p.h.



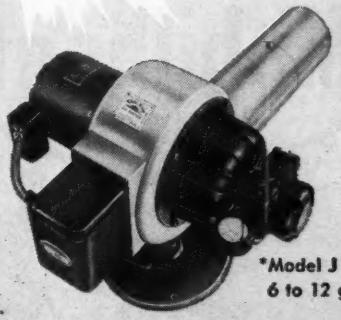
Model H-2
5 to 8 g.p.h

SUN-RAY FULLY AUTOMATIC OIL BURNERS

FAMOUS THE WORLD OVER FOR QUALITY AND ECONOMY



*Model K
10 to 25 g.p.h.



*Model J
6 to 12 g.p.h.

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

Inquiries invited from boiler and furnace manufacturers

SUN-RAY BURNER MANUFACTURING CORPORATION

139-22 Queens Boulevard, Jamaica 2, New York

It's a household word!...

MOBILHEAT

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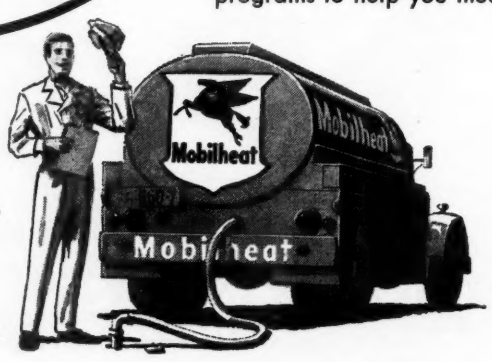
Mobilheat

That's why it's so much easier to Sell a Branded Product!

It's only natural that you'll find it easier to boost fuel oil sales when you sell a branded product with such an excellent reputation . . . *Mobilheat!*

But more than that, with Mobiiheat you get the benefit of 87 years of oil marketing and merchandising experience . . . plus plans and programs to help you meet and beat competition.



Get on this Brand Wagon

SOCONY-VACUUM OIL COMPANY, INC.

NIAGARA UNITS *Simplify*

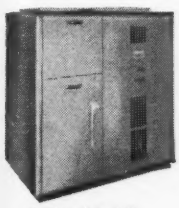
Year-Round Air Conditioning Installations for Homes ANYWHERE

Warm Air Furnaces . . . Refrigerated-Air Home Coolers

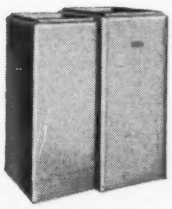
With Niagara's extensive lines of gas, oil and coal furnaces and electric cooling units you can ideally meet the requirements for year-round air conditioning in **any** home — **anywhere.** By combining a Niagara home-cooling unit with any Niagara forced air furnace you provide the home owner with circulating warm air in the winter and circulating cool, dehumidified air in the summer. This is the most simple, most economical, most effective way of providing **year-round** air conditioning.

To meet air conditioning requirements for any home, Niagara gives you:

For Homes with Basements • GAS-FIRED FURNACES • For Homes without Basements



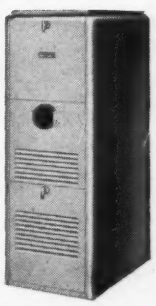
Series 50 AC CAST IRON



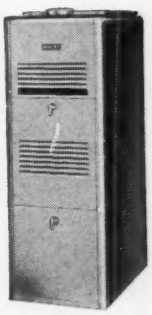
Series 40 AC STEEL

Niagara Series 50 furnaces are equipped with the exclusive Niagara cast-iron heat exchanger, famous for dependable long-time operation with low gas bills. Deluxe Series 50 AC models have 3-speed direct-drive blower — standard models, single-speed, belt-drive blower. Also available in gravity models. Sizes range from 75,000 to 180,000 BTU input.

Niagara Series 40 furnaces have exclusive Niagara-made alloy steel heat exchangers. Blower-filter unit of AC models may be installed on either side (shown above at left side of heating unit). Also available in gravity models. Sizes from 60,000 to 140,000 BTU input.

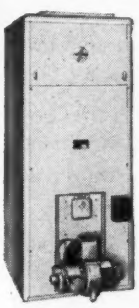


Series 40 DFAC Down-Flow

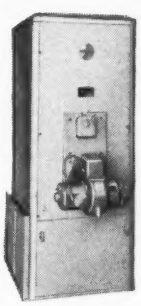


Series 40 VAC Hi-Boy

The series 40 line of high-boy winter air conditioners includes down-flow types for perimeter heating systems, and conventional up-flow units. Exclusive Niagara-made alloy steel heat exchanger. Sizes from 50,000 to 115,000 BTU input.



Model 60-75 DFAC



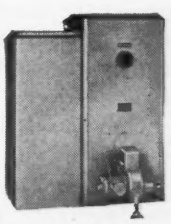
Model 60-75 VAC

OIL-GAS CONVERTIBLE: For Homes with or without Basements

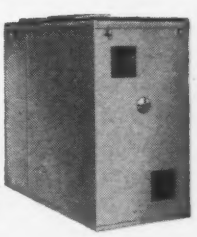
Designed for the economical use of oil, Niagara Series 60 convertible furnaces are exceptionally compact and can easily be converted to gas when desired — with a Niagara gas conversion burner. Equipped with exclusive Niagara-made steel heat exchanger of new, space-saving, rectangular design. Line includes vertical down-flow and up-flow complete winter air conditioners.

The blower-filter unit of 60 AC models may be installed on either side. Gravity models also available.

Series 30 furnaces are complete winter air conditioners of the basement or "low-boy" type. Deluxe models have 3-speed direct-drive blowers; standard, single-speed, belt-drive. Sizes from 105,000 to 210,000 BTU.



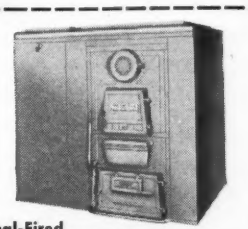
Model 60-75 AC



Series 30 AC

Coal-Fired Furnaces

Efficient, durable cast-iron Niagara coal furnaces are available in three styles: Square cabinet and round casing gravity furnaces, and rectangular forced-air furnaces.



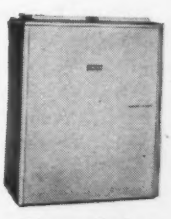
Coal-Fired Forced-Air

Coal-Fired Gravity

. . . and Summer Air Conditioning in its Most Effective, Economical Form

Niagara refrigerated-air Home-Cooling Units make the supreme comforts of year-round air conditioning practical and economical in all homes that are heated by forced-air systems. The units are designed to use the blower, filter and ductwork of the heating system for the distribution of cooled air in the summer. Units of 2-ton and 3-ton capacity occupy less than 6 sq. ft. of floor space.

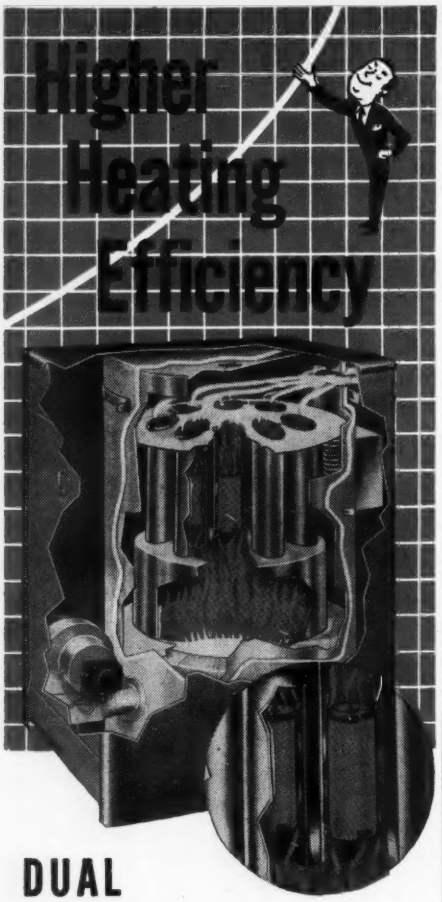
Write for the complete Niagara story — the outstanding money-making and prestige-building lines for heating contractors.



Niagara Cooler NC-2

THE NIAGARA FURNACE DIVISION
THE FOREST CITY FOUNDRIES COMPANY
2500 West 27th St. • Cleveland 13, Ohio

HOME-HEATING EQUIPMENT MANUFACTURERS SINCE 1890



DUAL ECONOMY

STAINLESS STEEL INTENSIFIER TUBES

Installation economy for you **because the Dual 8 is easy to install and service: the cabinet is installed after all piping is completed; all controls are on the front of the boiler; the intensifier tubes are readily accessible.** ***Economy for homeowners*** **because they get faster heat with less fuel: the intensifier tubes see to that by cutting chimney heat loss and speeding heat transfer. Then add A. S. M. E. Code Construction and contagious customer satisfaction ... that's a recipe for more sales and more profit.**

Write for new folder: 1033 New Britain Ave., West Hartford, Conn.

*U. S. PAT. NO. 2,560,275

Acme DUAL 8 BOILER BURNER UNITS

ACME HEATING DIVISION

THE UNITED TOOL and DIE CO.

ing. Boiler-burner units shipped during 1951 were 55,151. There were also 1,981 commercial-industrial boiler-burner units shipped during 1952, down slightly from the 1,997 shipped the previous year.

A footnote with the report clarifies the question of who reports an oilburner shipped when, for example, an oilburner manufacturer combines his burner with a boiler or furnace of another manufacturer or where the furnace or boiler manufacturer purchases the burner separately and assembles it in an oilfired unit. The footnote reads:

"If a plant manufactures an oilburner and combines it with a furnace of its own manufacture or with a furnace from another manufacturer, the data for this furnace-burner device are reported under furnace-burner units. In addition, the respondent reports the furnace of his own manufacture under warm air furnaces. If a plant manufactures a furnace but combines it with a burner purchased from another manufacturer, the data for the furnace are reported under warm air furnaces. In this case, the data for the oilburner already have been reported by the producer of the burner as oilburners sold separately. A similar situation exists in regard to the data for boiler-burner units and cast-iron boilers."

The significance of this explanation lies in the fact that the Census figure of 504,557 residential oilburners sold separately in 1952 is deceptive. Actually, many of these burners were combined by boiler and furnace manufacturers to produce factory-assembled units and others were used by dealers to install field-assembled units.

When the total number of oilfired furnaces and boilers installed last year is deducted from total sales, straight conversion oilburners account for only about 26% of the 777,604 residential oilheating installations made, indicating a continuation of the diminishing number of oilburners being installed in coalfired boilers or furnaces.

❖

Pipeline taps Alberta Oil for western Canada Need

A THIN STREAM of black gold began flowing across the Canadian Rockies October 1, tapping the oil fields of Alberta for the rapidly-increasing needs of the West Coast. The Trans-Mountain Pipeline Company 718-mile line stretches from nine miles east of Edmonton to Burnaby Mountain.

Just what the development will mean to British Columbia probably will not be known until the operation is well underway, but major oil companies are making elaborate preparations for the change. One oil official, stressing the importance of the pipeline, estimated British Columbia's yearly consumption as one-eighth of the Canadian total, with a population of only one-twelfth.

Majors plan Expansion

Although recent figures are not available, the oil official said the B. C.'s demand a year ago was 54,100 barrels monthly compared to 455,200 for all of Canada.

Imperial Oil, the biggest company in the territory, opened its enlarged refinery September 16. The refinery is capable of handling 22,500 barrels of crude oil daily, compared to the current 12,000 barrels.

Imperial now takes 5,000 barrels daily from Alberta by rail, the rest of its requirements coming from California. With its new plant and the pipeline, it will get its full requirements of crude from Alberta, although some "middle-distillates," such as fueloil, will be imported.

Standard Oil Company has broken ground for a completely new refinery, with completion scheduled for late next year or early 1955. Capacity of the old plant of 8,350 barrels a day will be increased to 10,000 with all crude coming from Alberta.

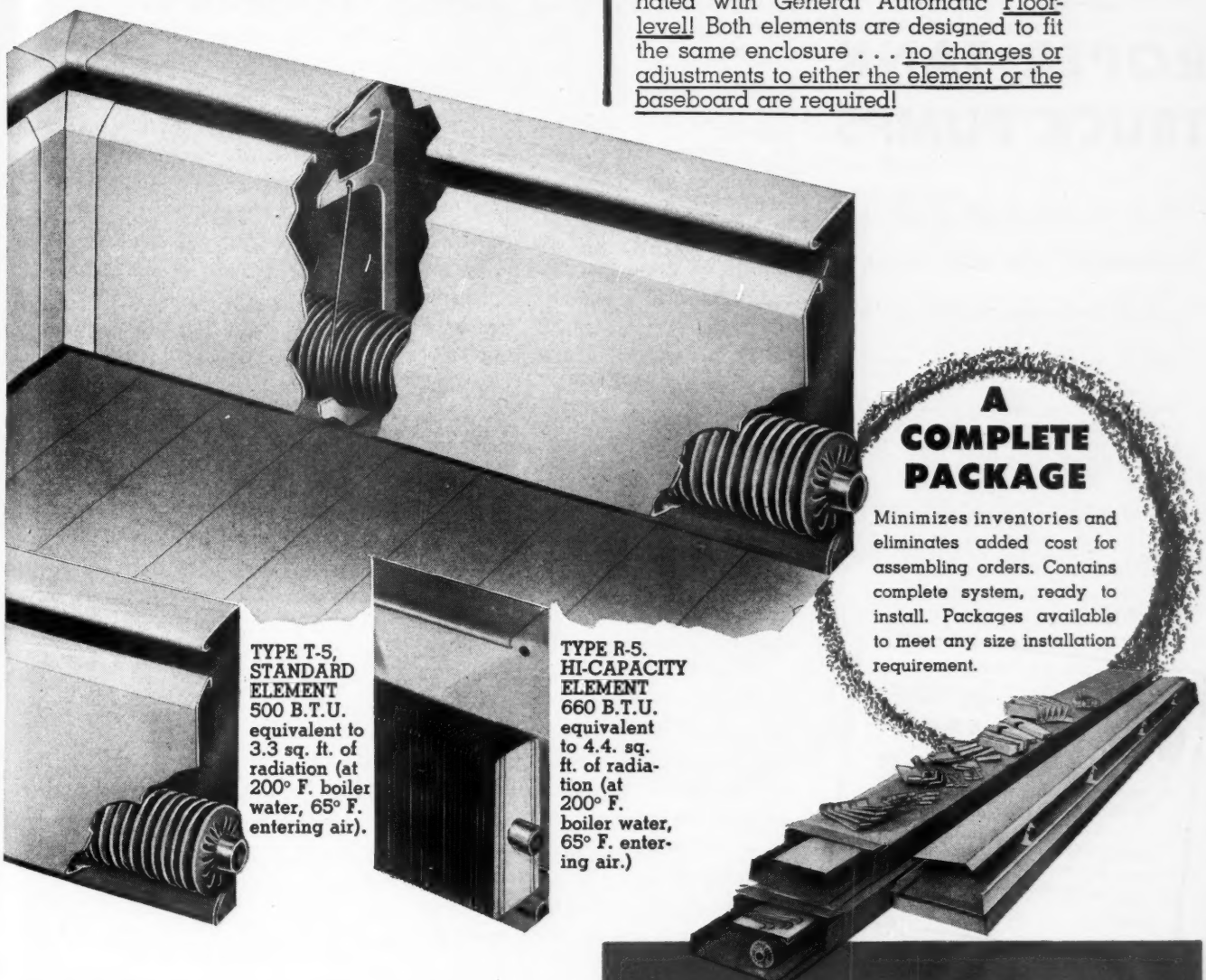
Shell Oil, now handling from 9,500 to 10,000 barrels daily will boost the present total to 15,000 by 1954.

The crude oil processing in B. C. now includes two per cent from Alberta and the balance from California. When the pipeline is in operation the processing will be 100 per cent Alberta oil.

A pipeline spokesman said that the 24-inch line will carry 120,000 barrels a day when it opens, with three pumping stations along the way. Approximately December 1, a fourth station

NOW...CHOICE OF TWO ELEMENTS WITHOUT CHANGE OF ENCLOSURE!

Choice of two elements . . . Standard or Hi-capacity . . . simplifies the problem of compensating for room heat loss, through the use of either element or a combination of both. As a result of this improvement, all heat application can be confined to the area of cold air infiltration—the outside walls. Thus, continuation of the baseboard along the inside walls can be completely eliminated with General Automatic Floor-level! Both elements are designed to fit the same enclosure . . . no changes or adjustments to either the element or the baseboard are required!

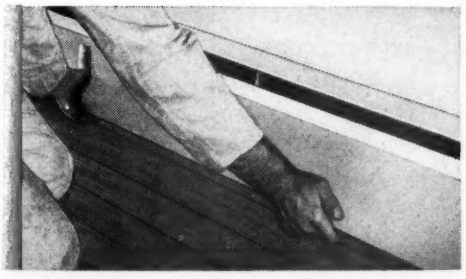


TYPE T-5, STANDARD ELEMENT 500 B.T.U. equivalent to 3.3 sq. ft. of radiation (at 200° F. boiler water, 65° F. entering air).

TYPE R-5. HI-CAPACITY ELEMENT 660 B.T.U. equivalent to 4.4. sq. ft. of radiation (at 200° F. boiler water, 65° F. entering air.)

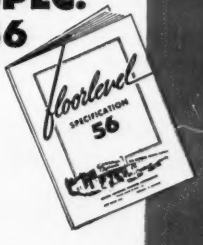
A COMPLETE PACKAGE

Minimizes inventories and eliminates added cost for assembling orders. Contains complete system, ready to install. Packages available to meet any size installation requirement.



Front panel snaps in position in seconds—removes easily for service and cleaning.

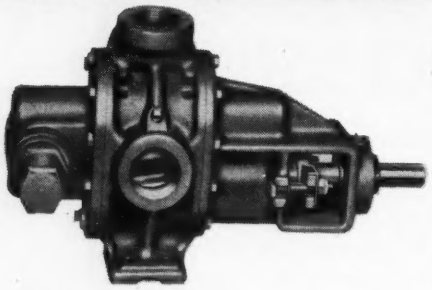
SEND FOR SPEC. 56



GENERAL Automatic®

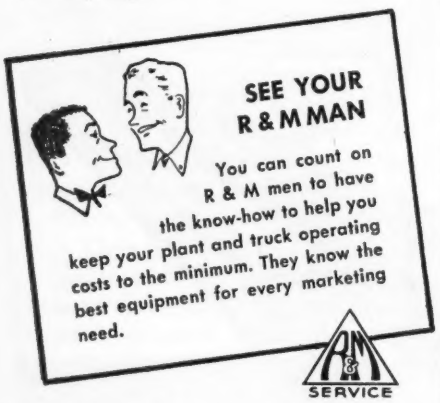
GENERAL AUTOMATIC PRODUCTS CORP.
2300 Sinclair Lane ★ Baltimore 13, Md.

RENICK & MAHONEY, INC.



ROPER TANK TRUCK PUMPS

Built for long-lived, efficient operation, with economical, smooth and quiet delivery. Split gland makes repacking easy. Handle all grades gasoline, kerosene, diesel fuel and fuel oils. Easily serviced without disturbing pipe connections or drive coupling.


SEE YOUR R & M MAN
You can count on R & M men to have the know-how to help you keep your plant and truck operating costs to the minimum. They know the best equipment for every marketing need.
R&M SERVICE

Send for the R & M complete catalog

RENICK & MAHONEY, INC.
380 Second Avenue (at 22nd Street)
New York 10, N. Y.
Telephone ALgonquin 4-4202
Complete Equipment for the Oil Trade

will increase capacity to 150,000.

The $94,000,000 pipeline will be tapped at Kamloops, in the B. C. interior, by Royalite Products Limited's new 5,000-barrel daily refinery. In addition, an offshoot line will in time feed refineries in Washington State.

❖

Group seeks end of "unfair" federal Tax on Appliances

A CAMPAIGN to bring an end to "unfair and discriminatory" federal excise taxes on oil, gas and electrical appliances was announced at a press conference at the Hotel Biltmore, September 21, by representatives of three organizations of appliance manufacturers.

The Gas Appliance Manufacturers Association, the Oil-Heat Institute, and the National Electrical Manufacturers Association announced plans to enlist the support of an estimated 3,500 appliance wholesalers and 140,000 appliance retailers in a campaign to bring facts about the excise taxes to the attention of Congress and the Administration.

Reasons for Repeal

Reese Mills, chairman, Excise Tax Advisory Committee of NEMA and chairman of the press conference, stated that:

"The tax repeal program stems from the fact that this coming year the Congress undoubtedly will consider a number of proposals for revising the Federal tax structure, and the industry is anxious that Congressmen be informed as to the necessity for repealing the tax on appliances. Declines in the sales of appliances show that the excise taxes are having a serious effect upon the sales of these products."

The three manufacturing groups will enlist the support of their members, and the support of retailers and distributors in a substantial effort to inform senators and congressmen why the excise taxes on appliances should be repealed.

A Fact Sheet, which will be sent to the manufacturers outlining these reasons, states six major reasons for repeal of these taxes.

(1) The taxes, originally imposed during World War II, were levied to discourage consumer buying of appliances and thus to conserve scarce metals.

(2) These taxes are discriminatory in that they are extra taxes to which many other durable and non-durable goods are not subject.

(3) The appliances on which the taxes are levied are essentials to modern living and are no longer luxuries.

(4) The income from these taxes represents only one-fourth of one per cent of the government's tax revenue, which, if removed, might well be offset by increased revenues resulting from better business.

(5) Excise taxes on appliances work a direct hardship on five major groups: manufacturers, wholesalers, dealers, and employees of all firms in the electric, gas, or oil, appliance business, as well as consumers of these products.

(6) The ratio of the production of appliances to overall national production has shown a substantial loss over the past three years, a fact which indicates that the tax is having a serious impact on sales.

Included in the list of retailers being encouraged to take action are dealers in the department store, jewelry, hardware, farm equipment, drug, furniture, plumbing, and appliance fields handling one or more of the two dozen appliances listed as subject to Federal excise taxes.

❖

Hartford Oilheating Dealers fill a Sunday Supplement

THE SEPTEMBER 13 issue of the *Hartford Courant* carried a 28 page magazine-type supplement on "Winter Comfort Round the Clock."

Featured throughout the supplement was oilheating and its ramifications. Most of the text material was written by local oilheating dealers, less of it by manufacturers. The Plumbing & Heating Industries Bureau supplied two short features on oilburning.

Among the ads were presentations of 81 dealers who promoted oilheating, one who promoted gasburning equipment. Four banks used ad space to solicit installment business.

This whole project was particularly

New MOR-SUN Heat Exchangers

GUARANTEED

—to make your selling easier!

1. Guaranteed Heat Exchanger Gives More Heat
2. Aluminum Foil-Fiber Glass Insulation
3. Burner Parts Easily Accessible
4. Improved Oil and Gas Burners Interchangeable
5. Long-Life Stainless Steel Combustion Chamber
6. Removable Vestibule Door
7. Single Exhaust Vent
8. No Noisy Metal-to-Metal Contact at Division Panel
9. Two Large Air Filters
10. Quiet, Powerful Blower
11. Solid Base with Leveling Screws
12. Radiator Side Pans Increase Heating Surface

Consumer Guarantee

One Year Guarantee

Ten Year Guarantee

MORRISON STEEL PRODUCTS, INC.

Mor-Sun Warm Air Furnaces — Gas or Oil Fired — come in 10 models, conventional or reverse flow. Output range 52,000 to 152,000 BTU's.

for MORE PROFIT, with MOR-SUN Mail this coupon

• Sell MOR-SUN Furnaces and you can sell with confidence. To make your sales job easier we offer MORE with MOR-SUN... a 10 Year written Guarantee on every MOR-SUN Heat Exchanger in addition to our standard one-year warranty on all complete units. Check these 12 points of superiority and you will see why we do not hesitate to guarantee any MOR-SUN Warm Air Furnace.

Don't pass up this opportunity to get *all* the details on how you can sell more heating systems... easier... at a greater profit! Fill in this coupon... prove to yourself that, to you as a heating equipment dealer... MOR-SUN offers MORE.

MORRISON STEEL PRODUCTS, INC.
613 Amherst Street, Buffalo 7, N. Y.

Gentlemen:

Please send me complete information on MOR-SUN'S Plan for Profits.

Firm Name.....

Address.....

City.....Zone.....State.....

(Please Check)

☐ Distributor ☐ Dealer ☐ Installer

MOR-SUN
PRESSED STEEL FURNACES
®

MOR-SUN FURNACE DIVISION

MORRISON STEEL PRODUCTS, INC.

613 AMHERST STREET • BUFFALO 7, N. Y.

ALSO MANUFACTURERS OF ROLY-DOOR STEEL SECTIONAL GARAGE DOORS AND CARRY-ALL TRUCK BODIES

timely not only because it came at the opening of the heating season but also because the city will be getting natural gas some time this Fall.

❖

Construction Awards still Strong, says Dodge Reports

CONSTRUCTION CONTRACT AWARDS set forth in Dodge Reports for August in the 37 eastern states continued strong following July's top record for the year thus far. A month ago Dodge said that if the monthly total for the last five months could average $1,414,751,000, the year's total would tie record-breaking 1952. The August total was $1,414,408,000.

But August was 21% less than the July figures, although only 2% less than August 1952. The eight-month total is now $11,115,588,000, up 4% over the first eight months of 1952.

F. W. Dodge Corporation, construction news and marketing specialists who issue Dodge Reports, pointed out that while the August figures seem low in comparison with the swollen July totals, it is significant that they held their own against the averages. A mid-year decline had been expected and seemed to have started in June until July went sharply up.

By classifications the August totals were: Nonresidential, $545,851,000, down 29% from July but up 5% over August 1952; residential, $507,560,000, down 22% from July and down 19% from August 1952; heavy engineering (public works and utilities), $360,997,000, down 4% from July, but up 24% over August 1952.

Individual eight-months 1953 totals compared with eight months 1952 were: Nonresidential, $4,262,275,000, up 13%; residential, $4,419,463,000, down 4%; heavy engineering, $2,433,850,000, up 4%.

❖

New Jersey fueloil Group estimates daily Oil use

THE APPROXIMATE daily consumption based on the various outside temperatures, according to a study conducted by the Fuel Oil Distributors Association of New Jersey, Newark 2, is shown in the upper table.

Average Yearly Requirements Gallons	APPROXIMATE REQUIREMENTS IN GALLONS FOR ANY DAY AT AVERAGE OUTSIDE TEMPERATURES OF						
	50°	40°	30°	20°	10°	0°	—10°
1,500	3½	5½	8	10	12½	14½	17
2,000	4½	7½	10½	13½	16½	19½	22½
2,500	5½	9½	13	17	20½	24	28
3,000	7	11	16	20	24½	29	33½
3,500	8	13	18	23½	28½	34	39
4,000	9	15	21	27	32½	38½	44½
5,000	11	18½	26	33½	41	48	56
10,000	22	37	52	67	82	96	112
15,000	33	55½	78	100½	123	144	168

PERCENT OF NORMAL HEATING YEAR FROM SPECIFIED DATES: (New Jersey)

Date	*Percentage of Normal Heating Year Remaining*	*Date*	*Percentage of Normal Heating Year Remaining*	*Date*	*Percentage of Normal Heating Year Remaining*
Sept. 1	100	Dec. 26	67	Feb. 16	34
Sept. 28	99	Dec. 28	66	Feb. 18	33
Oct. 7	98	Dec. 29	65	Feb. 19	32
Oct. 14	97	Dec. 31	64	Feb. 21	31
Oct. 19	96	Jan. 1	63	Feb. 23	30
Oct. 24	95	Jan. 3	62	Feb. 24	29
Oct. 28	94	Jan. 4	61	Feb. 26	28
Nov. 1	93	Jan. 6	60	Feb. 28	27
Nov. 4	92	Jan. 8	59	Mar. 2	26
Nov. 7	91	Jan. 9	58	Mar. 3	25
Nov. 10	90	Jan. 11	57	Mar. 5	24
Nov. 13	89	Jan. 13	56	Mar. 7	23
Nov. 16	88	Jan. 14	55	Mar. 9	22
Nov. 18	87	Jan. 16	54	Mar. 11	21
Nov. 21	86	Jan. 17	53	Mar. 13	20
Nov. 23	85	Jan. 19	52	Mar. 15	19
Nov. 25	84	Jan. 21	51	Mar. 17	18
Nov. 27	83	Jan. 22	50	Mar. 19	17
Nov. 29	82	Jan. 24	49	Mar. 22	16
Dec. 2	81	Jan. 25	48	Mar. 24	15
Dec. 3	80	Jan. 27	47	Mar. 27	14
Dec. 5	79	Jan. 29	46	Mar. 29	13
Dec. 7	78	Jan. 30	45	Apr. 1	12
Dec. 9	77	Feb. 1	44	Apr. 3	11
Dec. 11	76	Feb. 2	43	Apr. 6	10
Dec. 13	75	Feb. 4	42	Apr. 9	9
Dec. 14	74	Feb. 5	41	Apr. 12	8
Dec. 16	73	Feb. 7	40	Apr. 16	7
Dec. 18	72	Feb. 8	39	Apr. 20	6
Dec. 19	71	Feb. 10	38	Apr. 24	5
Dec. 21	70	Feb. 12	37	Apr. 29	4
Dec. 23	69	Feb. 13	36	May 4	3
Dec. 25	68	Feb. 15	35	May 12	2
				May 23	1

In another study by the Fuel Oil Distributors Association, it approximates the remaining percentages of a normal heating season from specified dates. It is shown in the lower table.

❖

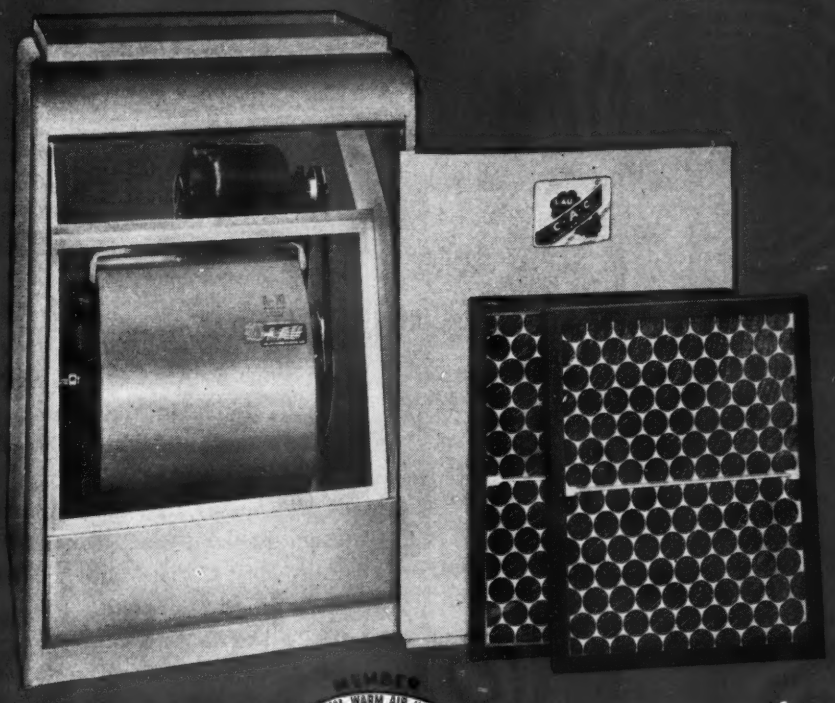
OHI reports eight Months of com.-ind. burner Shipments

THE GROUP of manufacturers reporting shipments of commercial-industrial oil-burners to the Oil-Heat Institute of America, Inc. shows a slight increase in shipments for August 1953, compared with August 1952. Totals for all types, capacities and fuels for August this year reached 4,415, adjusted total for August 1952 is 4,028.

Eight months' total this year, however, was a fifth better than for the same period last year, 25,883 burners of all types being shipped up to August 31, and 21,122 during the same period in 1952.

Burners covered in the report include horizontal rotary cup, high and low pressure gun, mechanical and steam atomizing and combination oil and gas units.

So You Want Package Units!



Lau has always been the leading manufacturer of this type unit!

NATIONAL WARM AIR HEATING AND AIR CONDITIONING ASSOCIATION — INDOOR COMFORT

Complete size ranges... to meet *C. A. C. requirements... models 8096, 8106, 8126, 8124

You want smart, attractive design—this is it! Sizes to meet your needs! Compact enough to occupy minimum space! Cabinets are assembled with blowers attached! Easily removable access door! Two oversize filters! Quiet, efficient and economical to operate!

- for furnace sizes 18″ to 28″ bowl
- c.f.m. 600 up to and including 1800
- most efficient filters on the market
- will accommodate a range of from 66,000 to 196,000 btu/hr bonnet output at 100° temperature rise

***C.A.C.**

These LAU units are built for Continuous Air Circulation. For full explanation of the principles involved in C-A-C please refer to MANUAL 6 — from National Warm Air Heating and Air Conditioning Association, 145 Public Sq., Cleveland 14, or write us direct.

Complete Line of Larger Package Units... up to and including 25-inch Blower

THE LAU BLOWER COMPANY • Dayton 7, Ohio

World's Largest Manufacturer of Warm Air Furnace Blowers

producers of blower assemblies—wheels—housings—bearings—pulleys—window, attic and industrial fans

See your jobber or write for catalog page 670

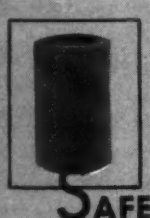
Give your sales a boost with this profit-maker line

Klemm

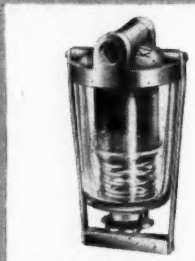
FUEL OIL FILTERS

- Better Looking—Easy to Sell and Install
- Exclusive Re-Cleanable Chemistone Elements
- Correct Model for Every Requirement

Yes, here's an oil filter line with plenty of genuine selling features. Klemm Fuel Oil Filters combine functional modern styling with safe, efficient, economical performance. Klemm Filters are just that—*filters not strainers*—assuring permanent trouble-free operation. Unique Klemm Filter servicing requires no tools . . . Chemistone element is quickly cleaned, restored to duty. And remember—Klemm Filters are attractively priced to sell—with real profit-maker mark-ups for you!



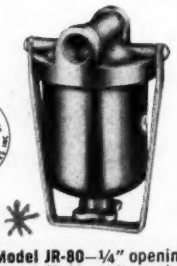
CHEMISTONE—"Heart" of every Klemm Filter, traps all sediment, rust, water, other foreign matter . . . keeps fuel oil clean!



Model FF-401G—¼" opening.
Model FF-430G—⅜" opening.
Capacity: Approx. 50 gal. per hour.

Model FF-401—¼" opening.
Model FF-430—⅜" opening
Same as above, but metal bowl.

Model JR-60—¼" opening.
Model JR-62—⅛" opening.
Capacity: Approx. 10 gal. per hour.



Model JR-80—¼" opening.
Model JR-82—⅛" opening.
Same as above, but metal bowl.

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CANADA: Elgee, Ltd., Toronto

Names in the News

(*Begins on page 6*)

Alwin B. Newton has been appointed chief design engineer and *Ray W. Qualley* director of research, The Coleman Co., Inc., Wichita 1, Kans. Newton, until recently vice-president in charge of engineering of Acme Industries, Jackson, Mich., has been associated with major manufacturers of airconditioning equipment and controls since 1930. Qualley comes to the Coleman organization from Meyer Furnace Co., Peoria, Ill., where for the past six years he has been in charge of all phases of engineering.

❖

Sales Appointments

Victor E. Reed named field sales representative in the Boston metropolitan area for Williams Div., Eureka Williams Corp., Bloomington, Ill.

Hayden H. Thompson appointed New England sales manager, Robot Auto-Heat Corp., Middletown, Conn.

Henry S. Goldsmith to represent Delta Distributing Corp., Trenton 8, N. J., in Georgia and Alabama.

John E. McNeil upped to Products Western district sales manager by Delco Products Div., General Motors Corp.

D. E. McCulley Co., Omaha, Nebr., designated as exclusive manufacturers representative for the sale of Cleaver-Brooks self-contained boiler equipment in western Iowa and central and eastern Nebraska.

W. P. Iverson & Co., Inc., New York, has been appointed general sales agent for Radiant Combustion System, Inc., New York.

Hollander & Co., St. Louis, has been named distributor by Servel, Inc., in trading area consisting of 25 counties in western and southwestern Illinois and 54 counties in the eastern half of Missouri.

Ramsey's, Harrisburg, Pa., to distribute Petro line of oilfired commercial and industrial heating and power equipment in five counties.

Wolverine Distributing Co., Grand Rapids and *Peninsular Distributing Co.*, Detroit, have been named by Gasinator Mfg. Co., Cleveland, as distributors.

fuel oil & oilheat

Painless Modernization

Oilheating Dealers can make good Use of the open-end Mortgage

by
Robert Gray

ONE OF THE MOST significant phases of the changing economy in American living during the past 20 years has been the widespread liberalizing of credit for the average person. It was just that long ago that we struck bottom in the great depression and it has been interesting to notice that some of the most effective props used to climb back to prosperity have been in the form of credit guarantees, credit subsidies, often by the Federal Government.

We had the HOLC that bailed out stricken mortgages badly in default. Then came the Federal Housing Administration and the Veterans' Administration that virtually guaranteed local lending institutions against loss on home loans covering a high per cent of the value of a property . . . the VA loans often covered 100% of the value. We had RFC and the Small Business Administration rendering similar helps to corporations that were worthy but often not bankable.

Attitude has changed

Intelligent bankers will freely admit that they have learned a lot about personal credit through these past 20 years. Where they traditionally had asked for wide safety margins on any risk, they came to recognize that personal character and capacity to pay were the really important considerations. As a result these bankers have liberalized their own thinking to the point that they like and foster high-percentage loans to the right people without bothering with Government guarantees in many instances.

This type of thinking has paved the way to the "open-end" mortgage that could be so effective in building sales for oilheating men. It is still new in banking terms. Most open-end mortgages are less than three years old.

Briefly described, an open-end mortgage is one that allows the homeowner to buy things that will improve his property and add the cost to his old mortgage. That lets him spread it out over many years rather than having to handle the higher monthly payments of a typical installment deal.

Open-end Clauses

A number of oilheating dealers have expressed some interest in the new open-end mortgage. To learn more about it we arranged a visit to the Dime Savings Bank of Brooklyn whose president George C. Johnson has done considerable writing and speaking on the subject. He should be a good authority on home mortgages because his bank with over 60,000 of them in its portfolio has more than any other savings bank in the country. In its mid-year statement it showed more than 412 million dollars in real estate mortgage loans.

It was in September three years ago that the Dime started putting an open end clause in its home mortgages except those insured by FHA, which represent about 20% of the bank's mortgage paper. In his own words, this is Mr. Johnson's outline of the Bank's thinking on the subject:

"Basically, an open-end mortgage is one under which future borrowings are secured by the original mortgage, after the original loan is reduced. Thus for example, if $2,000 has been paid off on a mortgage, new advances up to $2,000 may be made, if the appraised value of the property is still sufficient to support the total indebtedness and no liens have intervened between the borrowings.

"Our new plan," Mr. Johnson said, "will make terms considerably easier for home-buyers who need cash for enlargement, improvement or repair of their property.

"Instead of borrowing on a short-term note and repaying it within one to three years, as is the common practice today, families with open-end clauses in their mortgage instruments at our bank can spread these payments over the term the original mortgage has yet to run," Mr. Johnson explained.

A hypothetical case, cited by the banker as typical, showed a difference of $44.71 in monthly payments between the two borrowing methods.

To illustrate his point, Mr. Johnson used the following example:

A home-owner has an original 5 per cent $10,000 mortgage to run for 20 years. With monthly payments of $66 on interest and principal he has paid off a little more than $2,000 at the end of six years. By this time his family has grown so he needs an additional room; or for some other reason he wants to enlarge, improve, repair, or buy equipment for his home and requires $2,000 for the work.

Smaller monthly Payments

All he needs to do, if his mortgage is with The Dime Savings Bank of Brooklyn, is to fill out a simple application form. If the application is approved, the bank hands him a check for $2,000. In turn, he pays the bank $30 to cover costs of legal work, title insurance and other incidentals. He agrees to repay this $2,000 loan and the interest on it with regular monthly payments of $16.58 instead of the $62.08 per month required under terms of conventional three-year modernization loans at the lowest prevailing rates.

The $16.58 is added to his $66

monthly payments on the original mortgage, bringing the total monthly payment to $82.58.

"Under the old system of obtaining modernization loans," Mr. Johnson explained, "this home-owner seeking $2,000 for improvement of his property would have signed a note for $2,234.63 and agreed to pay it off within three years at $62.08 per month. This sum, added to the original $66 per month amortization of his mortgage would bring the total monthly payments to $128.08 instead of the $82.58 under our open-end mortgage plan.

Advantages to Mortgagee

"In countless cases, this difference of $45.50 would prevent the home-buyer obtaining his modernization loan simply because his income was not large enough to meet the $128.08 per month," Mr. Johnson continued. "On the other hand, there are innumerable families who can meet the lesser payments without hardship."

Mr. Johnson also pointed out that in a number of instances, maturities of present mortgages might be extended. In these cases little or no increase in the amount of the combined monthly payment on both loans would be necessary.

Of course an average oilheating installation wouldn't run anywhere near the $2,000 in Mr. Johnson's example but a home airconditioning installation would. For a new boiler-burner or furnace-burner unit costing installed, say $800, and using the same ratio as in Mr. Johnson's example the extra monthly cost to be added to the mortgage would only be around $6.65. From this the oilheating dealer can begin to visualize the great selling possibilities that lie along this route.

Acceptance has been slow

Why hasn't the open-end mortgage idea made greater headway in recent years? The principal reason, according to Clinton L. Miller, one of the Dime's officers who helped make things clear, is that up until recently there was too great an incidental cost in changing the mortgage. The legal fees, title insurance and such items usually ran between $100 and $200 for any change made in a mortgage, and that amount had to be paid in cash, or in effect it was a high down payment. It's only in recent months that the City Title Insurance Co. of New York has offered a very inexpensive arrangement for this. New York Board of Title Underwriters also offered equivalent rates for this insurance on mortgages previously insured by them. In Mr. Johnson's example that we quoted you noticed that this all-inclusive cost was only $30 on $2,000 additional borrowing, and it's less on smaller considerations.

In discussing some of the legal aspects with John J. Mackey, the Bank's solicitor (head lawyer) he brought out two different types of open-end agreements . . . they call them "Additional Advance Agreements." One of these is to be appended to the old type mortgage that had no open-end provision and the other, a simpler form, is made out and signed for the more modern mortgages.

Mackey had an interesting angle on this new form of credit. He pointed out that the Bank particularly liked these mortgage additions because they were dealing with people they knew . . . their credit record was well known. He visualized a family borrowing again and again for a variety of purposes with the home mortgage serving as a sort of credit cornerstone. They might borrow for a television, even a new car or trip to Europe, in his thinking as he looks down the road of possibilities. It's his idea of a "Yoyo" mortgage, up and down as often and as long as the personal capacity to pay seems unimpaired.

Use by oilheating Dealers

How can an oilheating dealer get in on this thing? First, naturally, he should talk it over with his banker, perhaps showing him this article. If that particular banker is not now making such open-end loans he can probably tell you who in town does make them. Incidentally, if your banker would like to see copies of the two forms that the Dime Bank uses for these additional advances, write the magazine and we'll send a print of them gratis.

As you talk to your banker, don't do it as if asking a favor. Banks can only make money when they lend it, so if you can bring in a new source of good

The prospect *hears how an open-end mortgage lets him make purchases for his home, add the cost to his old mortgage and spread the payments out over a long period of time rather than make the higher monthly payments of a shorter term installment loan for home improvements. In the instance cited in the article a family made a theoretical purchase of $2,000 with the aid of an open-end mortgage and increased monthly payments by $22.50. However, it saved the family a total of $45.50 a month over what monthly installment payments would have cost them under a three year home improvement loan.*

The oilheating dealer *should discuss open-end mortgages with his banker to find out how they are handled locally. After you learn which banks are interested in open end mortgages, you're ready to start selling. The article suggests that perhaps leads may be obtained from the banker. Or, a search of public mortgage records at the county court house is likely to be an excellent source for prospects that can be sold oilheating equipment under open-end mortgages.*

loans you're favoring the bank as much as it does you . . . it's a mutual advantage.

After you learn what banks or financial institutions will handle these deals you're ready to start selling. If you're fairly close to your banker he may give you some leads from his own knowledge of family facilities and credit standing. Another good approach is to go to your court house and look through the mortgage records of the prothonotary or recorder, whatever he's called in your county. Mortgage records are public. As you search these records you'll probably get a number of leads.

Then of course every dealer has a lot of prospects who seriously need a new installation of oilheating equipment but can't afford it. It would be reasonable to bring up the open-end mortgage idea with these folks. If they've paid off enough on their mortgage to be able to add the new heating layout, you can approach their mortgage holder about opening it up.

As a matter of fact, oilheating dealers in building an industry have so often demonstrated their resourcefulness that these suggestions are hardly necessary . . . they'll develop the angles when they understand what the open-end idea can accomplish.

Wallaces' Farmer analyzes oilfired space heater Usage

A MAIL SURVEY conducted by *Wallaces' Farmer* and *Iowa Homestead*, Des Moines, Ia., was made late last year to obtain information on the ownership and use of space heaters by subscribers.

A total of 379 replies were received to the questionnaire mailed to a representative sampling of 750 subscribers. These showed that 52% of the families have a central heating system and 46% use space heater or stove, the remainder employing a combination of both. At the same time, 48.6% said they used supplementary heaters, 41.5% using them frequently, 44.0% occasionally and 14.5% never.

Oil and electric heaters are the most popular types used for this purpose, 39.1% of the heaters being electric, 45% oil, 7.7% gas, 1.2% combination gas and coal or wood and 10.1% coal or wood. In selecting such a supplementary heater the farm families reported that they place the most importance on these features, outside of price: operating cost, operating efficiency, safety.

One other question asked the respondent to check "How important are the following features to you in selecting a supplementary heater?". In order, the farm families rated the features this way: safety, trouble-free operation, operating cost, long life, quick heat, silent operation, appearance and styling. Also elicited was the information that hardware stores and appliance stores are the most popular establishments where these farm families purchase space heaters.

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Appleton, Wis. Zone heats with Oil in Half of Homes

THE SIXTH ANNUAL consumer buying habit study, conducted by the *Appleton Post-Crescent* of the Appleton, Wis., City Zone Market, reveals that nearly half of all the homes in the area heats with oil. Coal heating is second in preference, followed in order by gas, coke, wood and electricity. The percentage of use of the various kinds of fuel used on January 1, 1953, and previous years is shown in the following table:

	1953	*1952*	*1951*	*1950*
Oil	49.7%	46.1%	42.7%	38.7%
Coal	39.7	47.7	53.1	58.6
Gas	9.4	5.9	3.1	.1
Coke	.7	.7	1.4	3.1
Wood	.4	.4	.2	.1
Electricity	.1	...	...	...

Forced hot air heating continues the most popular. With gravity heating the two types of warm air heating account for almost 85% of all heating systems installed in the Appleton City Zone. Percentage breakdown of heating systems is continued in the table below.

	1953	*1952*	*1951*	*1950*
Forced hot air	47.2%	47.5%	36.2%	22.6%
Gravity hot air	37.3	35.3	48.5	62.6
Hot water	6.9	7.1	6.9	7.7
Space heater	5.4	7.7	5.4	5.5
Radiant	2.3	1.6	1.4	.9
Steam	1.0	1.0	1.6	1.1

The Appleton City Zone has a population of 83,413, with an average of 3.9 persons reported per family. Dwelling units are divided: 85.3% single family homes, 12.6% 2-family house, .9% 2-family apartment, .8% 3-family apartment, .2% 4-family apartment and .2% apartments accommodating more than four families.

Just Plain Selling

C. B. Strain, Poughkeepsie, applies practical Methods to sell oilheating Equipment

by
Bert Dunphy

Bruce C. Dickinson, *sales manager of C. B. Strain & Son, Inc., Poughkeepsie, N. Y., gets ready to conduct a meeting for the sales force. Seated, left to right, are: Richard Dittmar, Jr.; Thomas A. Berinati and Frank Townsend. Standing at the right is Chalmer L. Strain, president. Dittmar no longer is with the company. Lloyd Warren has taken his place as a heating salesman.*

IN AUGUST 1932—just about one month after General Electric started its Airconditioning Division—C. B. Strain & Son, Inc., Poughkeepsie, N. Y., began to sell G-E heating equipment. Now, 21 years later, the company is still at it and has added a wholesale company that serves as a distributor for some 35 sub-dealers in eight surrounding counties.

Forerunner of the present company was the amalgamation of two firms that had operated separately as far back as 1910. In 1925 the two companies joined as Strain and Sutton to continue a plumbing and heating equipment business. Later in 1937 Sutton's interest was purchased and the present corporation established. C. B. Strain died in 1942 and his son has run the company since then. The firm is wholly-owned by the Strain family, with Chalmer L. Strain its president and his wife secretary-treasurer.

Bruce C. Dickinson is sales manager and W. E. Bock supervises service operations.

The company sells heating equipment, does oilburner service work, handles also plumbing equipment and kitchen appliances, both central and room airconditioners and sells no oil. Instead when an oilheating installation is made the customer buys fueloil from a company of his own choosing. Strain takes care of the guarantee period service and after that sells the customer a $25 contract. This includes all emergency service calls, a summer clean-up and overhaul and all parts under $1. If the summer clean-up is purchased by non-contract customers it is billed on a time and materials basis; individual non-contract service calls are billed at a minimum of one-half hour's labor, currently $4.75.

Better than 50% of the company's business is done in oilheating equipment.

Six servicemen are kept busy and each is provided with a uniform and drives a panel truck. The truck, incidentally, is a complete mobile service shop, being stocked with parts and accessories, vacuum cleaning equipment and, insofar as possible, with everything that will enable a serviceman to make and complete calls without returning to the shop.

Other trucks operated include two delivery vans—bread wagons, they're called—for transporting installation and other materials.

In all the Strain organization has 72 employees, including office help, and 65 of them are mechanics, servicemen and helpers.

On the heating sales side there are three salesmen, one of whom is on a part-time basis. Each one is on salary and commission, with the salary worked out to equal 50% of his base earnings. In addition he can earn bonuses. Dickinson, explaining the reason for this arrangement, says simply that it has proven best to give each salesman enough of a regular salary that he has some security, but still must depend upon commissions he is paid for actual sales to earn a good income.

A flat car allowance is paid each salesman, this, too, for a very specific reason. Dickinson wants his salesmen to work in a more or less confined area each day. Prospect cards are filed geographically by area to facilitate this and again it has been found best in practice to base car allowances upon a flat fee rather than try to work out some other basis on limited mileage.

The Strain organization impresses as one which is aware of and puts into practice a coordinated sales program, including advertising, direct mail and canvassing. They use a territorial work sheet in an imaginative way and use it to build up a mailing list.

The upper portion of one of the sheets is reproduced herewith. It represents a record of canvassing that a salesman makes, entering the name and address of the person called upon, plus pertinent and important information about the heating system. The type of

fuel, kind of heating system, age of heating plant, value of home and whether a homeowner or not can be shown, along with boxes to indicate the reaction received to the canvass call.

The work sheet then becomes an active mailing list that Strain circularizes at regular periods. As it is turned in the list is more or less geographically separated since a salesman normally would canvass one neighborhood at a time and with a little effort the names can even be separated by type of heating system, type of fuel used or combinations to pick the best group of names for mailings aimed at specific types of prospects.

After the mailings the salesman returns to canvass the same prospects, uses the mailing as a means of introducing himself and then makes his presentation. In this way, the company maintains a list of what Dickinson calls "perennial prospects" and experiences suprisingly good success in eventually selling them equipment.

Newspaper advertising accounts for the bulk of the Strain organization's promotion budget. Dickinson works out a consistent and regular schedule of newspaper insertions throughout the year and concentrates his big guns in the seasons of the year when installations are slow. The theme is not static by any means, but is varied from time to time. In preparing the ads much of the material furnished by G-E is used, including copy and illustrations, sprinkled with a generous helping of his own ideas, with the prepared copy rewritten and slanted at local angles wherever possible.

Newspaper ads are usually good sized insertions so that they dominate to some extent the page on which they appear. Dickinson told about selecting the time of the insertions and remarked that usually he avoids placing them in Thursday or Friday papers, these being the evenings when Poughkeepsie department stores and supermarkets remain open. Both normally place so much advertising in the newspapers that anything else is buried.

However, on one occasion a Strain advertisement was run in competition with these ads with attention almost forced upon it by its arrangement on the page. Copy for the ad itself measured two columns wide by about 10 inches high, but it was centered in a space three columns wide by about 12 inches high. Strain paid for quite a lot of unused space, but it couldn't be called unproductive space, because the wide, white band that surrounded the copy made it stand out like a sore thumb. Response to it indicated that a high percentage of the readers saw it.

Extensive use has been made of radio, both with spot announcements and as sponsors of newscasts, but results were so poor that it has been abandoned. During one period the Strain organization sponsored six newscasts each day between 7:15 A.M. and 6:30 in the evening. Booklets and heating surveys were offered as attractions to get people to telephone the studio and leave their names and addresses. Despite extremely close cooperation of

TERRITORIAL WORK SHEET

Salesman / Division / Date of calls	Burns Oil	Burns Coal-Coke	Burns Gas	Approximate age of heating Plant	Steam	Hot Water	Warm Air	G-E Oil Furnace	Approximate Value of home	Owns Home Yes or No	Not interested	No answer
Mr. Mrs. Dr. Miss Number and street												
Prospect for: Remarks												
Mr. Mrs. Dr. Miss Number and street												
Prospect for: Remarks												
Mr. Mrs. Dr. Miss Number and street												
Prospect for: Remarks												
Mr. Mrs. Dr.												

Upper portion *of a territorial work sheet used in canvassing by C. B. Strain & Son salesmen. Besides the room provided for names and addresses, pertinent information can also be recorded on the type of fuel used, type of heating system and reactions to the canvass call.*

A spread *in the Saturday Evening Post two years ago featured C. B. Strain & Son as G-E heating dealers. Here's an illustration that Sales Manager Dickinson worked up to dramatize fuel savings. The 23 oil drums represent the 1,121 gallon saving achieved in one year by the installation of a G-E oilfired unit to replace an old cast-iron boiler and a conversion oilburner.*

radio officials it just wasn't possible to improve the results from radio.

Also during the time radio was used Dickinson took a tape recorder around to users' homes and got their unedited and spontaneous endorsements of oil-heating equipment that Strain had installed. Even these were ineffective so radio advertising has been written off, at least for the time being.

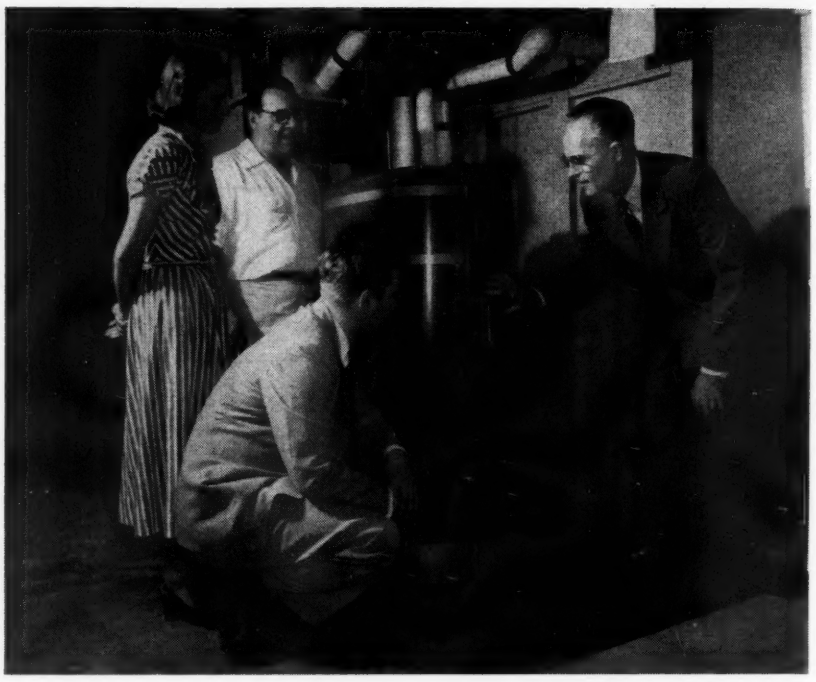
Billboard Advertising

One more prominent part of Strain's local advertising is the use of a billboard atop a building in the main business section of town. The billboard now shows a cut-a-way G-E unit, illustrating the "upside-down" flame. By the use of fluorescent colors and black lighting, the billboard has attracted wide attention. Plans call for the billboard to be changed every four months, but, in all probability, the same lighting effects will be used all along.

In Poughkeepsie itself the company experiences competition from natural gas, but has not been bothered seriously. Fueloil sells for 13.8¢ per gallon at the present time and natural gas is priced about 35% higher than that. Most of the gasheating installations are going into new construction where builders specify it to earn gas utility inducements or concessions when gas is put in new homes.

The wholesale organization that services the 35 G-E dealers in eight surrounding counties is the M-H Heating Supply, Inc., whose sole function is to sell heating and airconditioning equipment. Since it is staffed with the same personnel as the C. B. Strain organization, its operation reflects the same vein of progressive management. Strain operates as a regular dealer under this arrangement and serves as a "guinea pig" for many of the promotional programs that Dickinson works out. If they are not productive during the test period they are ditched or revised, but if they work out well for Strain, they then are prepared by the wholesale outlet for the balance of the dealer organization.

On newspaper advertising, for instance, the dealers receive pretty much the same campaign worked out for Strain, with copy and mats sent in their name to the local newspaper. The advertising is placed cooperatively.



This picture *too was used in the magazine spread. It illustrates how the Strain company uses the user. A couple who are prospects for the purchase of a G-E boiler are shown an actual installation that approximates the way the unit will look in their home.*

In addition, M-H (the initials were adopted because so many other companies in the area use "Mid Hudson" as part of their title) conducts service schools for the dealers. These are held in local areas rather than trying to gather all servicemen in Poughkeepsie on any regular basis. A basic training period is set up in a series of two hour classes held one night a week, followed by a five or six hour refresher course. G. A. Keeling is the sales engineer who holds the schools and who also contacts all the dealers regularly. He suggests to them ways of improving their business-getting programs and assists them when they need help on installation or service problems.

Dickinson periodically holds sales training schools, which follow pretty much the same pattern as the service schools. And once a year M-H has an annual meeting in Poughkeepsie for all dealers, timed usually to come shortly after G-E's annual meeting for its distributors.

One of the successful projects engineered for the dealers involved the placing of 30,000 door knob hangers throughout the eight county sales territory. The hangers offered a free heating survey to the homeowner and asked him to return a postcard. Dickinson believes that the number of door knob hangers used was more than any other distributor in the country and the results were well worth the effort.

Other incentives used by M-H to keep their dealers on their toes include sales contests, based upon a point system for heating equipment sales and for which merchandise prizes are awarded. Dickinson sparks the contest period with weekly bulletins that egg the boys on and list the leaders.

In all, both the retail and wholesale sides of this G-E distributor don't appear too sensational. You'll say that what they are doing is basic and that nearly every step in their merchandising and promotion is obvious and reveals nothing that every oilheating dealer worth his salt doesn't know.

That's right. But it's interesting, too, in this respect. Just because everybody is aware of the things that Strain does, doesn't mean that everybody practices them. The Strain organization does and what's more they've made a success of so doing.

So the story is thought pertinent not because it tells of a company which does the obvious to sell oilheating equipment, but rather because it points up the fact that these obvious, basic merchandising and promotion methods are sound and that they work.

Fueloil Delivery cost Method proposed by Standard of Calif.

As an addition to its marketing manual, *The Standard Heating Oil Dealer,* the Standard Oil Co. of California has distributed an interesting formula whereby a fueloil man can calculate his operating cost for delivering the product.

Because the West Coast states use a bracket system for pricing heating oils this formula is designed to show the oil marketer the great difference in costs as affected by drop sizes. For example, the illustration shown here would indicate that it cost 1.92¢ a gallon for a 50-gallon delivery and only .31¢ for a 500-gallon drop, everything else being equal.

It would be interesting to take your own figures and apply them to this formula to see how you come out. If your average delivery size should happen to be 210 gallons, for example, you can work out the calculations on that basis. You can make other variations, such as in driver wage rate, flow rate in gpm and such like.

Notice in the footnote to the table that the figures shown include only direct operating costs and have nothing to do with general overhead items, sales expense, taxes and other commonly recognized expenses.

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Harry D. Weller has been named assistant regional manager, in New York, for The White Motor Company, Cleveland 1. Responsible for sales to all fleet and national accounts, Weller will coordinate White's sales operations for the region with national accounts at their headquarters and branches throughout the country. Before joining the White sales organization, Weller was associated with Firestone Tire & Rubber Company as district manager at Buffalo. He previously had been eastern division manager of truck tire sales for Firestone.

SUGGESTED METHOD
FOR DETERMINING HEATING OIL DELIVERY COSTS*

(Figures used are for illustration purposes only. Substitute your own figures to determine actual costs.)

		SIZE OF DELIVERY 50 Gal.	100 Gal.	500 Gal.
Driving Time = 60 Min. × Average Delivery Mileage ÷ Avg. Driving Speed = 60 Min. × 3 Miles ÷ 20 MPH.	.....	9.0 Min.	9.0 Min.	9.0 Min.
Fixed Delivery Time at Customer Location (stick tank, hook-up & replace hose, invoice, etc.)	.....	8.0	8.0	8.0
Variable Delivery Time (Flow Time) = Gal. Delivered ÷ Flow Rate (30 GPM).	.....	1.7	3.3	16.7
Total Minutes Required for Delivery	.....	18.7 Min.	20.3 Min.	33.7 Min.
Productive Labor Cost Per Minute = Driver Cost Per Day Incl. Fringe Benefits (Payroll taxes, Paid Vacations, Holidays, etc.) ÷ Productive Minutes Per Day (Time in field; Less plant time for loading, personal needs, etc.) = $13.50/day ÷ 420 Minutes.	3.21¢/Min.			
Productive Truck Cost Per Minute = Fixed Truck Cost Per Year (Deprec., Ins., Licenses, etc.) ÷ Productive Min/Day × Shifts Used Per Year = $1100 ÷ 420 Min. × 310 Shifts = $1100 ÷ 130,200 Minutes.	0.84¢/Min.			
Total Driver & Fixed Truck Cost Per Minute.	.....	4.05¢/Min.	4.05¢/Min.	4.05¢/Min.
Total Driver & Fixed Truck Cost Per Delivery.	.....	$0.76	$0.82	$1.36
Truck Cost Per Mile = Operating Truck Cost Per Year (Gas, Oil, Tires, Repairs, etc.) ÷ Truck Mileage Per Year = $850 ÷ 12,500 Mi.	6.8¢/Mi.			
Mileage required to Make Delivery.	3.0 Mi.			
Total Operating Truck Cost Per Delivery	.....	.20	.20	.20
Grand Total Cost Per Delivery.	.....	$0.96	$1.02	$1.56
Delivery Cost Per Gallon.	.....	1.92¢/Gal.	1.02¢/Gal.	0.31¢/Gal.

*This method of computing delivery cost has been simplified to eliminate refinements which would not materially contribute to the accuracy of the results. The resulting cost does not include plant depreciation, taxes, and other indirect costs.

New Homes preferred

Pennsylvania oilheating Dealer likes them better than Conversions

by

Henry D. Crane

WHEN A GROUP OF oilheating men gets together there's a stock list of things they cuss out. One of the first, of course, is the current fueloil margin on which they're going broke. Then they cover cheap burners, high wages and the whole general list, but they often wind up with special expletives for the new home market and the so-and-so's who sell it so cheap that no one can make a dime.

Imagine finding in the hills of Bucks County, Penna., a man and his company who not only prefer new home business to the conversion or replacement markets but find this type of equipment selling more profitable than the fueloil business that it generates. In other words, Al Woosnam, who operates as Sinkler, Inc., Southampton, Penna., made more net profit last year out of $158,000 worth of low priced builder installations than he did out of $252,000 worth of fueloil sales. And this year it's working out even better because the volume is considerably larger—he'll reach 400 installations against 300 last year.

A visit to his place of business creates an impression that you didn't expect. There's no indication of frustrated dashing about to salvage the last dime before it departs down the drain, as you might have anticipated in a place that sells low priced new home jobs. On the contrary the place is serene. Roomy offices, airconditioned and pine panelled, house a handful of men and women well-fed and well-dressed and apparently out to do a good job.

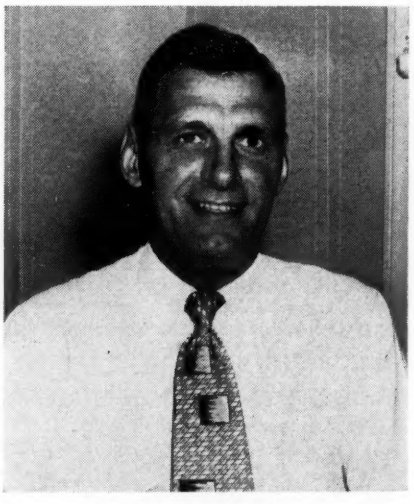
Woosnam has been in oilheating for quite a few years although his present venture goes back only to 1947. Before the war he had been a service man, then a service manager for a couple of Quiet May dealers in Philadelphia, following this with a job as a field service engineer for the Quiet May factory. Running his own business he still likes Quiet May on half of his volume, Delco on the balance.

When the war ended Woosnam went up from Philadelphia to Southampton and joined his brother-in-law Earl Sinkler in a general appliance business. They sold occasional oilburners for conversions . . . not enough to be profitable in themselves because they didn't justify a department. By 1947 Woosnam had bought out his partner, Sinkler, and switched the whole thing over to an oilheating business. The Sinkler name was continued because that family had been well known merchants in the area for generations. Today, besides Woosnam, the only other interest in the business is held by Wendell McMurray who is operations manager for the fueloil department.

At least 98% of the oilheating equipment sold goes to new homes. Most of this is builder business . . . at least two-thirds of it, and it's sold by one man who concentrates on operative builders. These are not the big, mass volume builders. They're the type that do 15 to 25 homes a year, in the $12-13,000 range.

Then there are two full time salesmen working on individual orders but again these are practically all new homes. There's a lot of home building around Southampton because it's only 12 miles from the new Fairless steel works below Trenton and the industrial region building up around it.

Woosnam's typical sale to an operative builder goes into a five room house with an expansion attic, which means that the homeowner can add two upstairs rooms as his family grows. There are usually five duct runs and two returns, plus two stacks to the attic which are blocked at the top.



Al Woosnam

With a Delco or Quiet May furnace-burner unit the complete job sells for about $550. Straight material and labor represent 79% of the sale price. Another 7% covers sales expense, shop overhead and the like, leaving 14% to carry administrative overhead and net profit. Costs are very accurately

policed, including a perpetual inventory which is adjusted once a month.

A two-man crew installs the unit, tank, wiring and has it ready to fire in four hours. Another crew moves in for the ductwork. The installation men are not allowed to start a burner. As soon as they're finished a service man takes over, starts the burner, runs instrument tests and OK's the job. He turns into the office a check sheet showing CO_2, smoke reading, stack temperature . . . the works.

Woosnam has his own sheet metal shop with four men normally and a couple of others on an extra shift during the fall rush. This fall rush is bad when you're doing mostly new home work because the builders all want the jobs firing early to dry out the plaster, decorations and such.

Unlike most oilheating companies who have their own duct shops, Sinkler, Inc., never has to bring in outside work to provide a steady flow of employment. There's enough similarity to the jobs that it is always possible for the boys to make up some parts ahead when deliveries slow down. At least that's true in theory and will happen

Wendell McMurray

some day. Up to now it hasn't because the jobs have always kept ahead of the shop.

Woosnam was asked whether it is difficult to hold the business of any particular builder from one year to the next. He pointed out that of course someone is always after his accounts. He doesn't lose as many as he did in earlier years because he's learned one of the answers . . . never let your costs get out of line, also never try to squeeze too much profit.

When he has lost builders, he's usually found that he's been overcharging them, often inadvertently. For example, as prices have dropped on some items that he buys he used to take an extra spread, leaving himself wide open for a competitor to show a saving. Now he gives the builder a credit if it happens that his costs are lower than he had figured. As a result he has quite a loyal following.

Woosnam has a very interesting angle on the manpower situation and how it affects his whole business philosophy. Good men are scarce. In fact at the time of the visit he had been advertising in Philadelphia papers for service men for two weeks without a nibble. Recognizing that his underlying objective in the whole business is fueloil gallonage for the years ahead he can take a limited number of good men and put in far more jobs of the uniform builder type than he ever could on typical conversion or replacement work. And when he puts in these new home jobs he gets 90% of the oil accounts.

There are two full time salesmen on fueloil only. They have exclusive territories and are responsible to get the new oil customer on every house they furnish. When the heating installation is completed, two prospect cards are made out, one for the oil salesman and one for his boss. The man watches the house like a hawk and also spends considerable time keeping in touch with the real estate salesmen who might sell it. The heating job is

Everything concentrated *in one attractive spot. Fueloil trucks move from the garage to loading rack in foreground. The storage tanks are buried under the lawn in front. At the rear, right, is the general office on the second floor with the sheet metal shop below.*

sold of course to the builder but he in turn does not sell the house . . . rather it's a real estate salesman who brings into the picture the eventual owner. Sinkler, Inc., does not pay fueloil commissions to real estate salesmen but does what it can to help them in other ways to keep them friendly.

Less than one in ten of these home buyers gets away to another oil company. Naturally, Sinkler, Inc., has an early introduction because it supplies free burner service for the first year warranty period. After the first year they try to sell a complete parts contract for service at $25, and they have about 800 of these out of 2,000 fueloil customers.

They don't want any service customers without the oil business. Oddly, most of these $25 service contracts are on a budget basis, billed $2.50 a month for 10 months, whether or not the same customer may be using budget payments for his oil.

This past season Woosnam sold 2½ million gallons of No. 2 oil, used five trucks. His supplier is Atlantic Refining Co. Virtually all accounts are automatic deliveries; there are no COD's.

He has an interesting incentive plan for oil drivers . . . actually it's more of a game than an incentive, but the men like it. They get demerits for

violations of good practice. For example, not using wheel blocks brings one demerit; a spill counts one or it counts three if not reported, a wrong ticket calculation brings 1/8 point off; gallonage deliveries below the group average count one to three points; bad appearance of the truck knocks down another point.

On the plus side, a man wins merit points in several ways. A new customer brings five merits, good truck appearance is one point, gallonage above the group average brings one to three merits.

At the end of the week the driver with the best score gets $5; at the end of a month the best score brings $25 and at the end of the season it's $100. These are not big sums but they keep each man aware of the good and bad practices that the points represent.

As to outside activities, Woosnam has installed as many as 100 Bryant gas heating jobs in a year. These don't too well fit his long range objective but he thinks it's important to take them when they are needed by one of his regular builder customers. To refuse them would bring another company into the picture with a threat to his oilheating sales.

Strangely, his average gas heating sale is larger in dollars than his oilheating. One reason is that they are more often sold in smaller numbers, often individual new homes that the builder handles on the side. Actually, his average gas heating job with ducts runs in the range of $700. These jobs probably carry a little more profit than the oil jobs because there's no fuel business for the future.

Then he tried this summer two air-conditioning jobs, made by Columbia Specialty at Washington. Both were three-ton installations, one water cooled and one aircooled. Selling price was around $1,200 and they were installed in homes where Sinkler had put in heating earlier. The same ducts were used, but with a new type of registers, and additional air volume was provided by opening up the return air ducts with basement registers and placing a grille opening in the basement door. Next year he'll do more cooling.

Woosnam impresses you as a man who's into the oilheating business all the way . . . like a man who knows where he's going and is very well started. You get the feeling that if he is overlooking any bets they're not very important.

Sheet metal shop *is important when an oilheating dealer makes a specialty of new home work. Al Woosnam handles 400 jobs a year with four men regularly and a couple extra in the fall rush, working on a second shift. Without a shop, subcontract delays could kill profits.*

Lowell, Mass. Dealers advertise oil Economy

A COOPERATIVE CAMPAIGN conducted by oilheating dealers in the Lowell, Mass. area has been featuring comparative home heating costs using gas and oil. Advertisements have appeared in *The Lowell Sun,* one of which on August 6 explained the difference between fuel costs and heat costs.

The heat content of fuel is broken down into Therms, the copy stated, and with 1 gallon of oil established at 1.4 Therms and 100 cubic feet of gas at 1 therm, comparative costs in Lowell are 9½¢ per therm for oil, 14¢ for gas at its lowest rate.

Another insertion which appeared five days later contained a chart which showed the difference in costs per therm of gas and oil, based on the gas rate schedule in effect in Lowell. The table showed that oil, regardless of quantity used, remained at 9½¢ per therm, while gas, after the first 100 cu. ft. minimum period, begins at 31¢ per therm for the next 400 cu. ft.; 24¢ per therm for the next 1,000 cu. ft. and 15¢ per therm for the next 13,500 cu. ft. Over 15,000 cu. ft. the cost is 14¢ per therm. The advertisement pointed out, however, "Customers begin each new month at the highest rate and obtain price advantages only if earned in that period. Oil . . . remains the same throughout."

Material for the campaign is furnished by Consumers Fuel Institute, Boston, an amalgamation of coal and oil dealers who are participating in a cooperative promotion venture.

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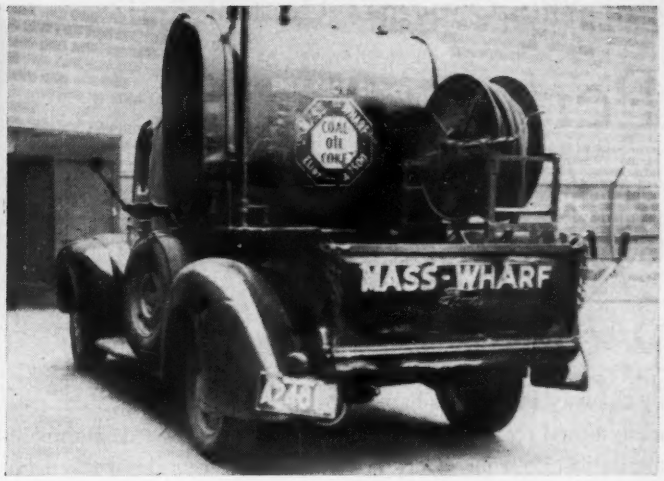
Jack S. Beldon has been appointed manager of marketing, Air Conditioning Div., General Electric Co., Bloomfield, N. J. Beldon joined G.E. in March of this year. Since that time, he has worked on special marketing assignments on consumer goods. Before joining G.E., he was with Montgomery Ward in Chicago as a division manager.



Side and rear views *of the pick-up truck used by Massachusetts Wharf Coal Co. for pumping out leaky fuel-oil storage tanks. Shown is the 275 gal. tank mounted on the back of the truck, with a pump, hose reel and 50 ft. of hose. The pump, located under the tank, is bolted to the bed of the truck body.*

Mass. Wharf uses special Rig for pumping out leaky Tanks

BASEMENT STORAGE TANKS that suddenly sprung leaks were a bit of a problem to Hugh McKee, service manager of the Massachusetts Wharf Coal Company, up in Cambridge, Mass. Usually they happened at the most inconvenient times, when fueloil trucks were out making deliveries and were not easily available for the required pump out. Diverting these trucks from their normal scheduled routes was costly and inconvenienced those customers who were waiting for oil deliveries.

While such occurrences were not happening too often, (42 leaky 275's in 1952), they were a definite nuisance and unless prompt service was given, could cause considerable trouble and inconvenience. When the tank was mounted over an asphalt tile floor, for example, the leaking oil could lead to serious damage if the tank could not be pumped out right away or the leak temporarily stopped.

This headache gave McKee some concern. Two things were needed to properly service such complaints, he reasoned. One was equipment immediately available to pump the oil from the defective tank before too much damage could be done. The other was to refill the new tank or repaired tank immediately and reduce the time that the customer was without heat or hot water.

As a solution McKee came up with this idea: He had a 275 gal. tank mounted permanently on the back of a Ford pick-up truck with a pump, hose reel and 50 ft. of standard hose. The pump was rigidly fastened to the floor of the truck body right under the 275 gallon tank and the hose reel.

Now when a service call is received and the cause is a leaky tank, the special rig is dispatched along with a new 275 gal. tank, just in case. The oil from the leaky tank is pumped into the tank mounted on the pick-up truck. Repairs then are made or the new tank installed. As soon as this is completed the oil is pumped out of the tank on the pick-up and into the basement tank. The job is completed and no fueloil truck had to be used or diverted from normal use.

McKee is quite pleased with the results and figures that the special equipment has more than paid for itself in reduced damages, customer satisfaction, quick service and uninterrupted fueloil delivery schedules.

Hugh McKee, *service manager of Massachusetts Wharf Coal Co., also is president of the National Association of Oilheating Service Managers.*

Bob Hall *(back to camera) is service supervisor. He is busy here filling in for the regular dispatcher who is on vacation. Mary Sullivan, McKee's secretary, ties up all the loose ends and really knows what makes the service department tick.*

Part VIII: Oilburner Control Series

Perfex Controls

New PerfXray flame Detector and relay Unit; well-known stack-mounted control Panels

by
J. W. Schulz

PERFEX CORPORATION does not aim to go off half-cocked. That's proved by the way Perfex has handled its new idea, aimed to provide great improvements in oilburner safety controls.

This idea, which is the basis of the PerfXray flame detector, really is not brand-new—although Perfex formally introduced it to the oilburner industry at large only last August. Actually Perfex has been working on the PerfXray for more than a few years. About four years have passed since the first sneak previews that demonstrated the PerfXray idea. From then on, gradually more and more men in the oilheating industry learned that Perfex had something up its sleeve. In early 1953, reports from burner dealers indicated that hundreds, if not thousands, of PerfXray controls were being tested on actual, typical installations.

Working in cooperation with certain burner manufacturers and dealers, Perfex seemed to be doing an exceptionally thorough job of field testing its new idea before starting large-scale production based on the idea.

In double-checking and then double-checking again before announcing the PerfXray formally in August, 1953, Perfex Corporation could not help but let leak out the information that it was developing and field testing its PerfXray. The information that leaked out made many oilheating experts curious about the details of the new safety control device. These things were actually accidental, not parts of a well planned, long range, sales promotional stunt. Perfex had but one objective, and that was to avoid going off half-cocked.

The brain of an oilburner installation is its safety control panel, electrical in nature. This brain needs a nerve, an electrical nerve or a switch, to give it information about whether or not the flame is burning properly.

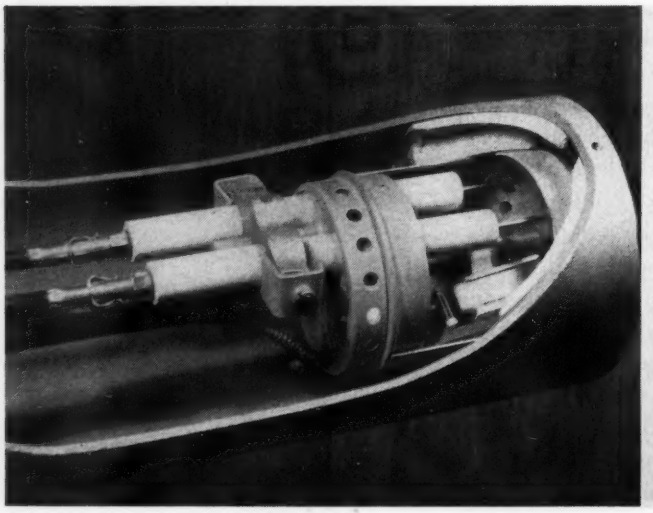
A burner starts, and usually its brain or safety control panel permits it to run about 90 seconds on a trial basis—during which the brain waits for a signal that the flame has started to burn properly. If the brain does not receive the "Flame Burning Properly" signal within about 90 seconds, the brain stops the burner and prevents its starting again. Until given manual attention, the burner is kept idle "on safety" or "on safety lock-out."

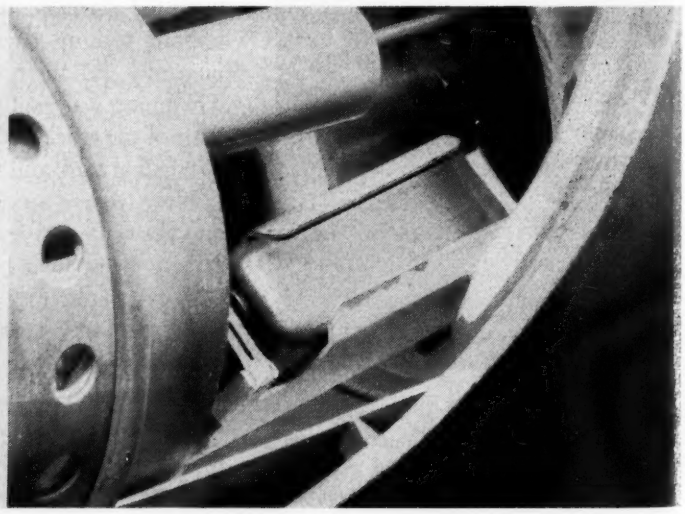
The brain of the burner installation, or the safety control panel, needs to know also if an oil flame continues to burn properly all the while the burner motor runs. If the flame goes out or the flame size fluctuates considerably after proper starting of the burner, the safety control panel must do something about this.

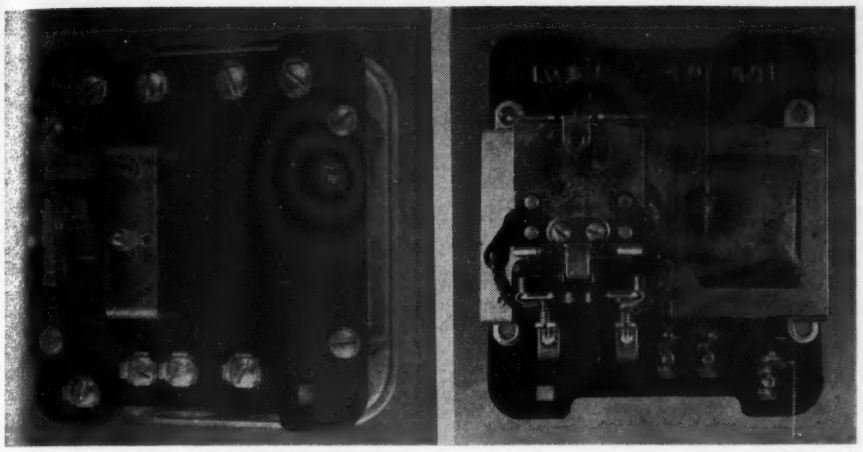
The electrical nerve or switch that gives the safety control panel information about whether or not the flame is burning properly often is called the flame detector. Detecting that the flame is burning, it opens or closes a switch —or more than one switch.

Most of the oilburners in use today have stack-mounted safety control panels. These panels are mounted on smokepipes because they have flame detectors that extend into the smokepipes. Surrounded by products of combustion, these flame detectors respond to temperature changes. They are heat sensitive, of course. Following starting of the motor on a gun-type burner, for example, an increase in the temperature of the smokepipe gases of about 50°F. may cause a smokepipe-located flame detector to throw a switch; as a result the burner's brain, or stack-mounted safety control panel, receives an electrical signal to the effect that the oil being sprayed into the firebox

Left—*No difficulty, says Perfex, fitting the PerfXray into the gun tube of almost any gun-type burner; here's a Shell-head burner with PerfXray in place. Right—Close-up of PerfXray in same burner.*







Left—*Front view of simple safety control panel used with PerfXray reveals only eight terminal screws and safety switch assembly. Use of two bimetal strips bucking each other corrects this assembly 100% for different ambient temperatures—safety timing therefore remains the same, 45 seconds, whether control is in freezing basement or exceedingly hot basement. Ignition timers used in other Perfex controls similarly are 100% compensated for different ambient temperatures. Right—Back of the same control panel. You can see the relay and its two sets of contacts, and the low-voltage transformer.*

of the installation has ignited properly.

With the burner in normal operation, the smokepipe is hot—the temperature of the products of combustion flowing through the smokepipe is between about 450°F. and 750°F. on typical installations. A considerable drop in temperature, a drop of say 50°F., indicates to a smokepipe-located flame detector that the oil flame is misbehaving or has gone out, and as a result the flame detector passes on this information to the safety control panel by throwing a switch or two. The safety control panel does something about this. Some makes and models of panels turn off the burners "on safety lockout" under these circumstances. Others stop the burners quickly, as a result of a considerable drop in stack temperature during normal burner operation, keep the burners idle for perhaps a minute or two, then re-start the burners. Panels that perform in this fashion are said to re-cycle on flame failure.

The new idea, the PerxXray idea, that Perfex started working on more than four years ago involves: (1) a flame detector located not in the usual smokepipe position, but near the flame so as to be affected by radiant heat from the flame; (2) a flame detector small enough to be located in the gun tube of a typical gun-type burner without requiring any changes in the design or gph rating of the burner; (3) a flame detector that responds quickly to slight changes in the amount of radiant heat from the flame.

There's nothing new, of course, in the idea of a flame detector located near an oil flame and responsive to either light or radiant heat from the flame. However, in the sum-total of the three items listed above, Perfex did have something new.

Oilburner experts who see the PerfXray flame detector for the first time are amazed at its small size. Whereas up to now the flame detector units they have seen for smokepipe or firebox locations have been at least as large as limit controls, in the PerfXray they see a tiny gadget that's less than half the size of a cigarette lighter!

To be factual, we must say that Perfex has set a new low in the size of a flame detector, for up to now the well dressed man could not go around with even one typical flame detector control in his suit-coat pocket. He can, however, go around unbulged with no fewer than EIGHT PerfXray flame detectors in his pocket, for eight of these take up less space than one king-size package of cigarettes!

"With the PerfXray as tiny as it is, can its speed of response to radiant heat from the flame be great enough with the PerfXray in its usual location, in the gun tube of a burner and next to the nozzle adapter?" is a question often asked by men seeing the control for the first time.

The Perfex answer to this question is, "Yes, speed of response is in fact unusually fast, as flame detectors go. The PerfXray responds so rapidly to the flame that when the burner starts we don't use the ordinary 90-second safety timing or try-for-ignition timing. We use half that timing, or 45-second timing. That is concrete evidence of the high-speed action of this flame detector."

"How about dependability of action?" men studying the PerfXray often ask. "This little gadget must have in it tiny working parts and a tiny switch action. Will its tiny switch really open and close each time the burner starts and stops?"

"First, if the switch in the PerfXray does not close, the oilburner cannot start. Second, if the switch does not open within 45 seconds after the burner starts, the control panel locks out on safety," Perfex points out as the answer to that question. "Thus the switch must first close and then open, for a

Close-up *of PerfXray and mounting clip that goes on nozzle adapter of a gun-type burner. Heat-sensitive area that faces flame is black, is low in photograph. Perfex says this flame detector works better when this heat-sensitive surface is coated with carbon than when it is clean—this relates to better absorption of radiant heat by carbon-coated surface — and Perfex says also the front surface can be filled with carbon, and flame detector still will react.*

burner to start and provide heat. Then after a shutdown of the burner the PerfXray switch has to close again before the burner can start again. On the many installations that have operated for months and even years using PerfXray controls that have given no trouble, we know the PerfXray went through its paces on every start and stop of the burners. Sticking of the switch in either its 'on' position or its 'off' position causes a no-heat call. When you get no service calls, you know the PerfXray is working perfectly!"

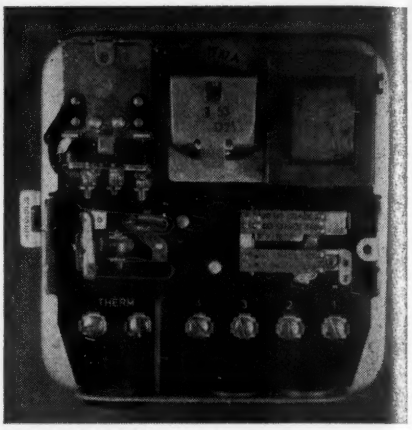
The safety control panel that is used with the PerfXray, called a relay unit by Perfex, contains (1) a low-voltage transformer that powers a low-voltage thermostat circuit, the PerfXray circuit, and a safety switch heater —see Diag. 3 for details of this; (2) a safety switch timed for 45 seconds, and its related safety switch heater; (3) a low-voltage relay to start and stop the burner motor; (4) a manual re-set button that extends out through the panel's cover; and (5) of course, terminals for wires.

With the PerfXray and its control panel used for a gun-type burner, Perfex engineers like to see the panel mounted on the burner—it can be at a slant, for it needs no leveling. The burner's motor, ignition transformer, and PerfXray should be factory-wired to the panel, Perfex engineers believe, to minimize the amount of on-the-job wiring the dealer has to do. There's supposed to be considerable savings in this for a burner dealer, for factory-completed wiring is more economical with respect to both labor and material. Besides, a long run of wiring to a smokepipe does not come into the picture with the control panel and the PerfXray flame detector both part of the burner. You've got to run line-voltage wiring to the burner's motor and ignition transformer, Perfex reasons, so you save line-voltage wiring by having the control panel within inches of the motor and ignition transformer.

In the case of furnace-burner and boiler-burner units, Perfex believes, the furnace or boiler manufacturer should make both the PerfXray flame indicator and its control panel integral parts of the furnace or boiler. If the unit is shipped with its limit controls installed and with its wiring completed at the factory, the only on-the-job wiring left for the dealer to do relates to four wires. Two of these bring line-voltage current to the furnace-burner or boiler-burner unit; two low-voltage wires connect the room thermostat to the unit. Again, the dealer saves money, first because factory-completed wiring is more economical with respect to both labor and material, second because there's less wiring without the usual stack-mounted safety control panel.

Important also to burner dealers, Perfex finds factory-completed wiring of conversion burners and furnace-or-boiler units more troublefree than wiring completed largely on-the-job. Perfex points out that the PerfXray control idea permits control problems to be handled mostly at the factory level, instead of in the basement. That permits the oilheating equipment to be pre-engineered, pre-assembled, pre-mounted, pre-wired, and pre-tested by its manufacturer, says Perfex.

For odd-type installations, the safety control panel can be remote from the burner or furnace or boiler, of course. That can avoid, for example, having to climb a ladder to inspect the control panel of a ceiling-hung furnace—or re-set the safety button of the panel. It can avoid having to go down into a pit to check the panel of a floor furnace fired by a gun-type burner. It permits putting panels in clean, cool, convenient locations, which can be important on commercial jobs that haven't particularly clean equipment rooms.

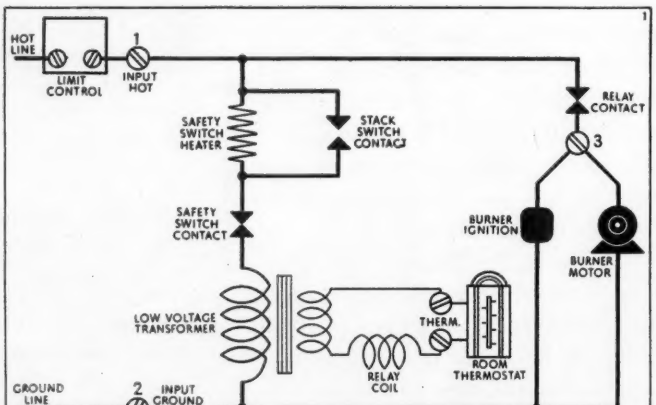


Intermittent-ignition *Perfex control panel for stack mounting; internal wiring of this panel is in Diag. 2.*

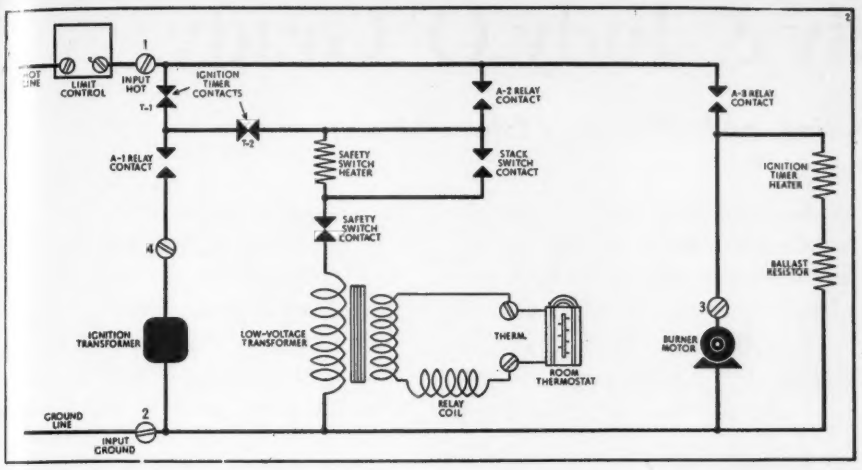
Up to and including now, the stack-mounted safety control panels have been the items in the Perfex line of greatest interest to oilheating students and experts. For your knowledge of oilburner controls to be complete, you must know more than a little about these panels.

Diag. 1 covers the exceedingly interesting internal wiring of the continuous-ignition Perfex panel for stack mounting. Its extreme simplicity is one of the reasons it is exceptionally interesting.

Notice Diag. 1 shows only three switches. The control has to have a relay contact to start and stop the flow of current to the ignition transformer and burner motor. It has to have a stack switch contact (call that a flame detector switch, if you prefer). It has to have a safety switch contact. This safety control panel has, then, the three switches (termed contacts in Diag. 1 because the term is used in Perfex dia-



Diag. 1 — *Extreme simplicity makes this wiring diagram outstanding. This is the internal wiring of a Perfex stack-mounted burner control panel that provides constant ignition. Because the safety switch contact is closed, the stack switch contact is open, and the relay contact is closed (by error), this drawing tells a story of (a) a start-up with smokepipe still unheated, or (b) flame failure within the past minute or so.*



Diag. 2—*Internal wiring of Perfex stack-mounted control panel for intermittent ignition. A voltmeter applied to secondary winding of the low-voltage transformer can show effect of opening and closing the stack switch contact—with thermostat circuit closed and burner running. Safety switch heater is in series with primary winding of transformer, a unique Perfex arrangement used also in Diag. 1. To understand this diagram, you must know that flow of current through the ignition timer heater causes ignition timer contacts T-1 and T-2 to snap open—in either 60 seconds or 90 seconds.*

grams) in the drawing—it can't do without any one of these—but it hasn't another switch in it!

The safety switch heater in Diag. 1 is in series with the primary winding of the low-voltage transformer, an unusual arrangement that deserves attention. That puts the safety switch heater in a line-voltage circuit.

If the stack switch contact or flame detector switch remains open for 90 seconds following starting of the burner motor, the safety switch opens, of course, and the burner is "off on safety lock-out"; it remains off until a safety re-set button is pressed.

Notice in Diag. 1 that the secondary winding of the low-voltage transformer serves only to power the room thermostat circuit and the relay coil. Thus the extreme simplicity of this continuous-ignition safety control panel extends into its low-voltage wiring.

Diag. 2 shows the internal wiring of the Perfex stack-mounted control that provides intermittent ignition.

Completing the room thermostat circuit in Diag. 2 snaps in the low-voltage relay of this control, closes the switch labelled "A-3 Relay Contact" and starts the burner motor. Two other relay switches close at the same time; they are labelled "A-1 Relay Contact" and "A-2 Relay Contact." The stack switch contact is open when the burner starts. It must close within 90 seconds, shuting the safety switch heater, or the burner will stop and remain idle (until the safety re-set button is pressed) because the safety switch contact snaps open.

If the smokepipe temperature drops following normal operation of the burner, the stack switch contact opens—in about 90 seconds the burner stops "on safety."

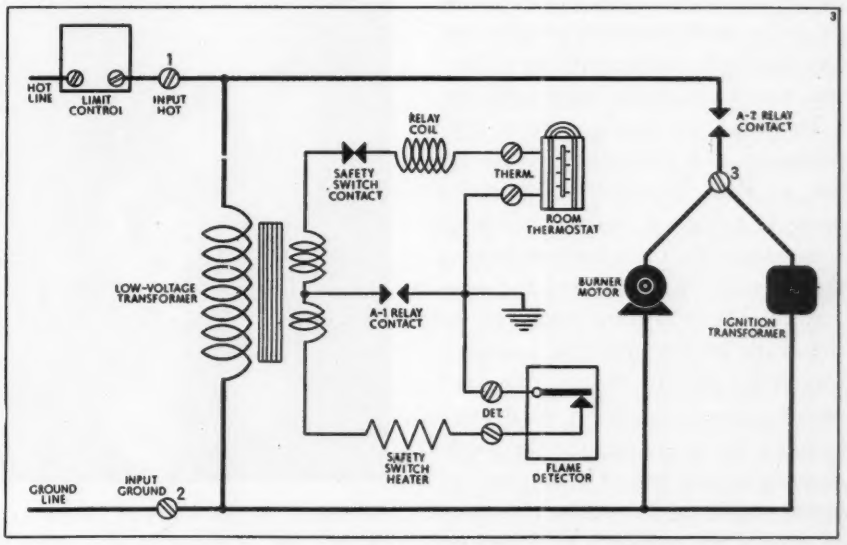
The control panel in Diag. 2 has an ignition timer that includes the ignition timer heater and contacts T-1 and T-2, all shown in the diagram. When current flows to the burner motor as the result of the relay's snapping in and closing "A-3 Relay Contact," current also flows through the ignition timer heater and raises its temperature.

Through the action of a bimetal strip which is warmed by the ignition timer heater, in a certain number of seconds the ignition timer contacts, T-1 and T-2, are snapped open. Ignition timing periods, starting when the burner motor starts, are 60 seconds for some Perfex panels, 90 seconds for others. The label on a panel gives its ignition timing.

A good feature of this control panel is that its ignition timer contacts are snap-acting—a dedent magnet in the ignition timer provides this feature.

Following shutting off of the ignition transformer, of course the ignition timer heater remains in the circuit all the while the burner motor runs. Because of this, the igintion timer contacts remain open. If the electric current fails momentarily or the main switch of the oilburner is opened and closed quickly while the burner is running, the burner stops and remains idle until the ignition timer assembly cools sufficiently for the ignition timer contacts to close. Study Diag. 2, and you can understand how opening relay contacts A-2, after the ignition timer contacts have opened, results in inabil-

(*Please turn to page* 183)



Diag. 3—*PerfXray control system internal wiring. Flow of current through safety switch heater for 45 seconds causes safety switch contact to snap open; then it remains open until someone presses the safety re-set button. Rapid response of PerfXray leads to use of 45-second safety timing instead of usual 90-second timing. Four-second response time for PerfXray is described as not unusual*

Colonel's Lady & Judy O' Grady

Both can afford the best Oilheating, finds this Long Island Dealer

by
Ray Horan

Was it Kipling who made the famous remark that the ladies mentioned in our title are "sisters under the skin"? Be that as it may, Lewis Associates has succeeded admirably in selling the same high grade line through the same polished sales crew to the millionaire on his estate and to the builder of the smallest development houses.

IT HAS NOT been uncommon in recent years to hear of drastic changes that have taken place in local markets in various parts of the country. Many a salesmanager has found himself face to face with problems of policy regarding his sales course that have given him more than his quota of headaches.

This is a report on one such area where the transition has been very pronounced, and on a company who met the changes smoothly and successfully.

Lewis Associates is a subsidiary of The Lewis Coal and Oil Company, located in the beautiful town of Port Washington, on the north shore of Long Island. They have in recent years sold their oilheating equipment to both the 100 acre estate owner and the factory worker's cottage with equal success, a neat job for any sales company.

In years gone by the heating companies of such fashionable communities as Port Washington depended upon a group of rather well-to-do homeowners for their business because they practically constituted the community. The sales were fewer but the size of the job accounted for a satisfactory dollar volume. However, in more recent years the boom in small home building has accounted for the mushrooming of low priced home developments within the immediate proximity of some of the country's wealthiest estate communities. The readjustments that dealers have felt were needed in their sales policy have been a source of great concern. In some instances well established dealers have not been able to take advantage of the new and different market, principally because of a faulty analysis of the requirements.

Lewis Associates, whose sales volume is in the 400 to 500 per year category, have certainly been confronted with all of the questions that have plagued their fellow dealers in similar types of communities elsewhere, such as;

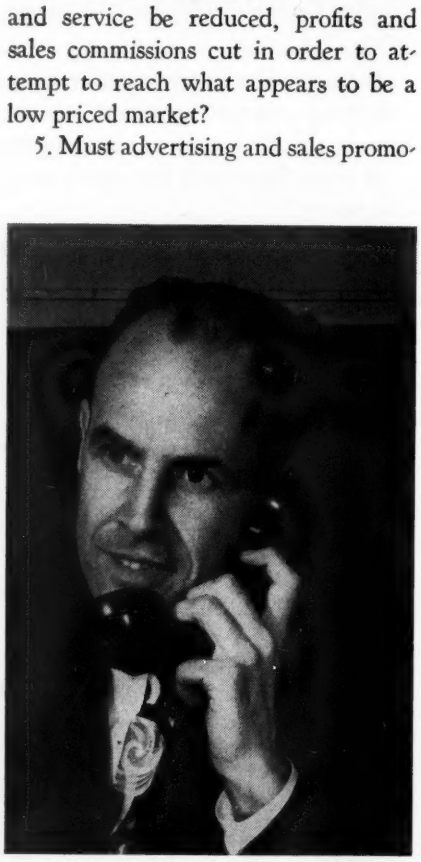
1. Can salesmen used to selling the so called carriage trade sell the lower income group?

2. Must we train dual sales organizations to meet what appears to be two classes of trade?

3. Should two lines of merchandise be carried, a first quality line and a so called competitive line?

4. Should the quality of installation and service be reduced, profits and sales commissions cut in order to attempt to reach what appears to be a low priced market?

5. Must advertising and sales promotion take on a new slant?



Bill Kane, *salesmanager of Lewis Associates, who outlines in this story his philosophy that the highest type equipment and salesmen are just as practical for the most modest prospect as for the palatial estate. His sales territory has both.*

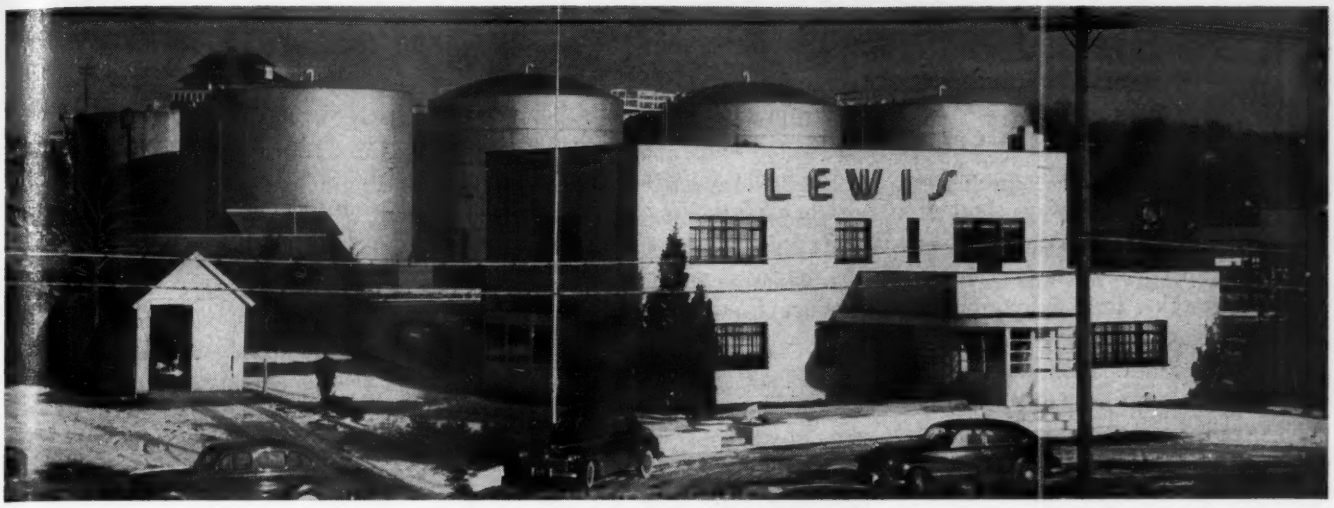
The answer to these and like questions could and can determine the success of any charted course.

We asked William Kane, vice-president and general manager of Lewis Associates for his views and his comments are well worthy of careful consideration because of the very excellent sales job that he and his firm have done.

Mr. Kane says that his parent company, The Lewis Coal and Oil Company, has been in the fuel and heating business in Port Washington for over fifty years. Top management policy throughout the past half century has been to offer for sale only merchandise and installations of the very highest quality and they have always striven to render a service above and beyond normal quality standards. Consequently, as Mr. Kane points out, this policy does not make for low prices. However, the steady growth and prosperity enjoyed by the firm indicates that the old community at least favored this policy, consequently any fundamental change in this established conduct to capture new markets was unthinkable.

Therefore, The Lewis Company has followed a course of action that might be described as evolutionary. Over a considerable period of time several progressive steps were taken and certain ideas established.

1. A more careful and detailed study was made of salesmen's compensation to work out a more realistic approach to the problem. Mr. Kane says he believes that the company who has a large turnover of salesmen due to low income is probably negligent in its managerial duties and simply does not place enough emphasis on this important subject. He feels that for the most part the problem of paying a fair income to salesmen starts with the frame of mind. Management must be constantly working towards better incomes for producing salesmen, not only by realistic pricing and bookkeeping methods but by plans and policies that help increase the good salesman's volume.



Main office *of Lewis Coal & Oil and its equipment subsidiary Lewis Associates at Port Washington, Long Island. With a barge terminal the company has storage for over 7½ million gallons of light oil. The company installs 400-500 G-E jobs a year.*

2. Mr. Kane points out that the type of market developing in the area must be thoroughly studied so that a sound understanding may develop regarding the types of homes that are going up, their valuation and construction. A knowledge of the class of people who are moving into the new developed area, their income bracket and their type and place of employment are important for it is only in this way that the salesmanager may get a complete grasp of their problem and train his men to work with the newcomer in the community.

There are several different market possibilities open for the high grade oilheating dealer as a result of the new development.

(a) Sales to the speculative builder.

(b) Sales to the contract builder.

(c) Sales to new commercial properties that inevitably follow the new development.

(d) After the first year, sales to those owners who have found their original heating equipment to be inadequate.

There is no question Mr. Kane feels about the advisability of good retailers taking business in the last three categories but he says that many responsible oilheating firms have shied away from speculative work. He is of the opinion that some of this business should be taken for prestige and to develop a closer and more extensive position in the area. However, he is quick to point out that the company must be very selective and that the same standards of quality in equipment and workmanship must prevail as that which the firm extends to its most select trade.

3. The question of adding the competitive priced line is one that the Lewis Company has voted against, as Mr. Kane puts it, "You either sell top quality or something less" and while he sees no objection to two or more lines for the sake of flexibility, the hope of drastically reduced prices as a result of cheaper equipment usually proves to be a phantom hard to come by, in view of the fact that so much of the sale price in heating is made up of labor and installation material costs. Certainly no responsible firm with a reputation to protect can afford to compromise on these items.

4. Installation and service, which expresses almost the complete character of a firm, should not be tampered with in an effort to save a few dollars for the home owner. In the long history of oilheating there is ample proof that it is false economy indeed for both the customer and the sales company to accept anything but the best standards that can be provided, according to Mr. Kane.

5. In considering advertising and sales promotion, The Lewis Company is of the opinion that with new and expanding markets, particularly where they are developing rapidly by the erection of new subdivisions, that expansion of institutional advertising is warranted but that the nature of this advertising need not change from that which the company did when their clientele was of a different and more fixed character. Sales promotion such as user gifts for prospects and sales contests should be stimulated but no marked change is required because of the new markets.

A buck remains a buck in any man's language.

6. Coming to the question of sales personnel, Mr. Kane retains some very strong opinions based on his extensive experience. We will let Mr. Kane tell you—"We like the highest type men that we can get, with as much formal education as possible, college preferred. We are not among those who believe that the oilheating business is too rugged an enterprise for salesmen of above average education or intelligence, nor would we consider the idea of using different types of salesmen for different clients. We are of the opinion that while the rough, tough, and nasty type of salesman will surely fail in the elite market the highly intelligent, educated and well mannered man is capable of adapting himself to and being accepted in the humblest of homes. As to the necessity of building goon squads to meet the rough competition that exists in most markets, we have never felt that it was practical to fight bonfires with a conflagration.

"Because my early training was in the service and installation end of the business I presume that I see the installation and service of a job as an adjunct to sales to a greater degree than some managers. Yet the fact that the vast majority of our leads and prospects come directly from our customers would indicate that the policy of insist-

ing on complete customer satisfaction does pay off.

"I am a little mystified at times when I hear of a dealer who has been in business for many years and who has a large backlog of users who complains that his salesmen are always short of prospects, for there can only be two answers, either his salesmen are not properly working their old customers or the company must have been so inefficient in its installation and service departments that it has failed to make solid friends for the firm.

Sales Training

"I should like to revert back to the subject of sales personnel which we started originally to discuss and say a few words about training, for I believe this very important. Along with our policy of seeking only the highest type men, we have followed a course of action in the education of new salesmen that seems a bit unusual in the oilheating business.

"First, we hire our men with a long range plan in mind, rather than using the system so commonly employed of hiring just for the fall season and hoping that by some stroke of good fortune the man may somehow weather the winter storms. Second, we place the man on salary for a period of three months and assign him to the installation and service departments for that period. During his three months indoctrination he works closely with the technical and mechanical end of the business and gains a concept that could be acquired in no other way. More than this, he becomes very well acquainted with all of our installation and service people and the heads of the departments.

"The knowledge thus gained and the personal acquaintances established brings our men a fine personal understanding of the problems involved and an appreciation of the other fellow's job. When he enters active selling he avoids the very common error committed by so many salesmen of overselling or promising that which can't be delivered. I believe that this sort of training has paid us well in our relations with our customers."

It would appear that the Lewis Company has proven that the job of moving in on the changing scene of American markets calls for no drastic switch in a basic concept of doing business but rather gradual adaptation to conditions.

We might draw the conclusion that merchandise that is good for one class of trade is good for another, at least in non-luxury merchandise such as oilheating, also that the average working man in America can afford quality merchandise if he is properly sold on what quality means in long range savings. Most people will agree with this theory, because it is quite evident to observing folks that it's the cheap product that tends to keep the poor man poor because he is always replacing it.

Mr. Kane's observations about quality salesmen is a most refreshing view because the whole character of a company or an industry is represented to a considerable degree by the character of its outside representatives. While Mr. Kane's company is not the only one to have discovered the advantages of top quality in sales manpower and the advantages of extensive training, certainly it is a lesson that can not be repeated too often.

We know that there are many changes taking place in the American heating market for the oilheating dealers, some similar to the Port Washington picture where the changes are brought about by the changing character of the real estate, but there are others brought about by such forces as the shifting of populations and the competition of natural gas. Whatever the causes that affect or disrupt markets we are inclined to feel that the same level-headed approach to these problems that has served The Lewis Company can and should work out the answers for other firms.

The Lewis Creed

A summary of the Lewis creed therefore would seem to be about as follows.

1. *Don't* abdicate your responsibility to your community by resorting to the sale of low priced and inferior equipment.

2. *Don't* compromise with the quality and character of installation or service.

3. *Don't* underestimate the ability of the American home owner to pay for quality equipment and workmanship.

4. *Don't* be driven to drastic or desperate means of advertising and merchandising; follow the orthodox methods but do more of it and do it better.

5. *Strive* for the highest type sales personnel, train them intensely and then sell the daylights out of your market.

❖

Newsweek estimates top airconditioning Producers

A SPECIAL REPORT included in *Newsweek* magazine examined the progress of the airconditioning industry and the outlook for its future. It listed production goals for a group of manufacturers, representing a total of 1,380,000 room-size units and 86,000 central cooling systems.

Fedders-Quigan intends to produce 345,000 room units this year, the report states, followed by 225,000 for Mitchell; 150,000 by York; 120,000 by Sutton; 115,000 by Carrier and 100,000 by Frigidaire. Carrier is shown as the biggest producer of central systems with an estimated 14,000 this year, Worthington is next with 8,500, Servel and GE are tied at 7,000, Remington and Chrysler both are reported to be producing 6,000 and York will make 5,000 of this type.

The report briefly reviews some of the difficulties facing the airconditioning industry—price, operating cost and installation problems, but concludes that the expansion of central cooling for the home and industry is inescapable. Estimates are included to show that the $2 billion business this year probably will be tripled by 1960, this including all types of room units, residential central systems, commercial and industrial applications.

❖

Henry G. Gabel is the new Middle Atlantic district sales manager for Century Engineering Corp., Cedar Rapids, Iowa. Gabel will make Norristown, Pa., his headquarters. He was formerly with Electric Furnace-Man, Inc., where he was district sales manager for the past five years.

Tank capacity Chart

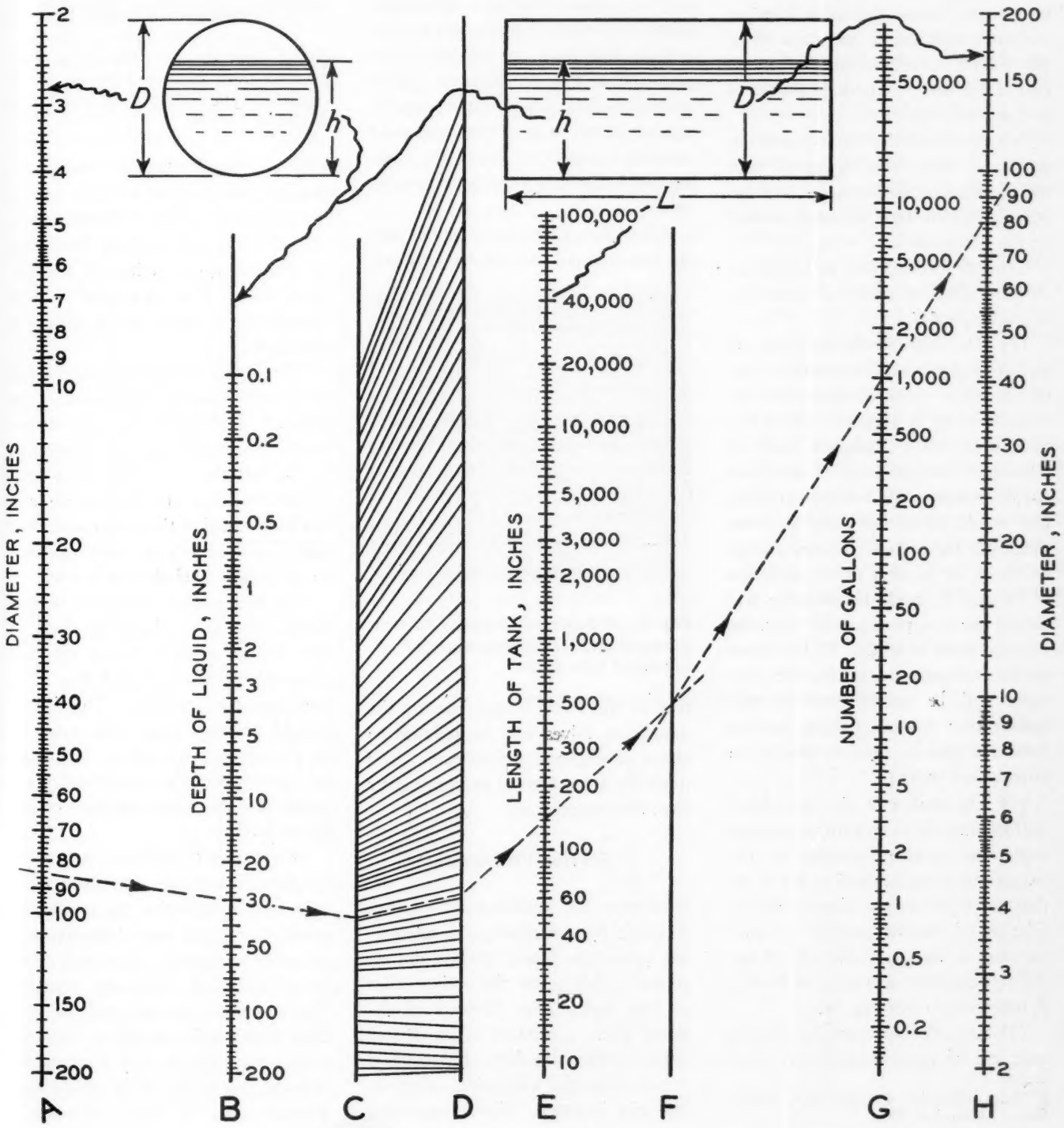
QUANTITIES of oil in round storage tanks can be determined with the chart reproduced below. Three factors are used in the computation. Line "A" and line "H" represent the diameter of the tank in inches; line "B" records the depth of liquid in the tank; line "E" is the length of the tank in inches and line "G" indicates the number of gallons in the tank.

The dotted line on the chart illustrates one computation. The diameter of the tank is indicated as 84" and the liquid in the tank stands at a depth of 30". These two points are joined and the line continued toward the lined area "C-D." This area is crossed, as shown, and the line continued from the edge of the "C-D" area to the length of the tank in inches on Line "E" and the line continued until it crosses line "F."

Then on the right hand side of the chart, the diameter of the tank in inches, 84", is marked off on line "H" and joined with the point where the other line intersects line "F." At the point where this line crosses line "G" is indicated the number of gallons in the tank—in this case, 1,000 gallons.

In the drawings above the chart, the letter "D" indicates tank diameter, "h" stands for the height of the liquid in the tank and "L" tank length.

The chart can be used, of course, for any liquid in round tanks.



Servicing home cooling Units

Part III: Checking and correcting service Complaints in Condensers and Airconditioners

by

Maurice R. Eastin*

REFRIGERATION machines can be divided into two general types, the unregulated type and the regulated type.

A definition of the unregulated type is one in which pressures and temperatures in the evaporator, condenser and compressor assume definite values for various conditions of operation without forced or controlled changes in evaporator area, evaporator pressures or compressor speed.

We have in service two types of the regulated units, one equipped with the pressure regulating valve and the other provided with unloader control on the compressor.

General information to remember in the following study of operating characteristics is:

(1) The natural characteristic of unregulated suction pressures for most refrigeration units is approximately from 30 to 40 lb. pressure. There are, of course, many variables such as humidity changes and compressor speed changes with voltage variation that would affect the above pressure range but the suction pressure should be about 30 lb. at a stable condition of 71 deg. F. inside temperature and should rise to approximately 40 lb. for a temperature of 80 deg. F. For intermediate temperatures the suction pressures will be proportional in this temperature range. (These suction pressures may be used in studies on unregulated units.)

(2) On studies of the modulated control using the evaporator regulating valve the suction pressure at the evaporator is maintained at 40 lb. by the ERV valve so the above rule for relation of suction pressure to temperature is not applicable, except under full capacity operation at 80-deg. F. temperature (see Fig. 2).

(3) Since all condensers for this size unit are of approximately the same capacity, the head pressures may all be considered to be those of Fig. 3 for this study. These head pressures are for stable operating conditions and not instantaneous or transient conditions.

(4) Heat rise figures are given in Fig. 4 to complete the picture of what goes on in the refrigeration machine. The values of the temperatures themselves are not necessarily correct but they are close enough for our study. There are many variables such as compressor condition and efficiency that will affect the temperature values enough to cause differences in temperatures between units of the same make and type operating under the same condition of atmospheric temperatures, etc.

(5) When a heat exchanger is used we can approximate that the temperature of the Freon liquid entering the expansion valves will be reduced to about atmospheric temperature. It is normally a good many degrees higher than this temperature.

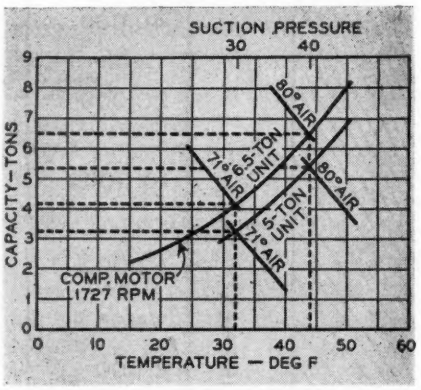


Fig. 1. *Relation of capacity to temperature and suction pressure for unregulated type system.*

Service Problems

SHORTAGE OF REFRIGERANT — (See Example A)—A shortage of refrigerant causes the liquid level in the receiver to fall below the end or inlet of the liquid line. Instead of the liquid alone, a mixture of liquid and vapor or alternate shots of liquid and vapor cause the expansion valves to hiss and hammer. The refrigerating

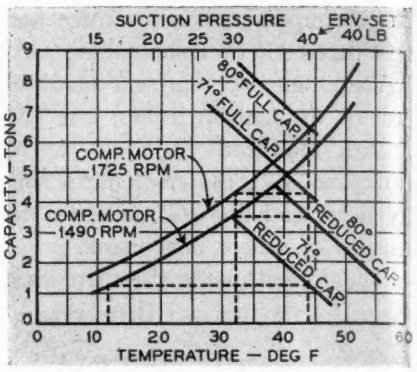


Fig. 2. *Relation of capacity to temperature and suction pressure for a regulated type system using evaporator regulating valve.*

effect is low because the function of changing liquid Freon to vapor within the evaporator is either intermittently carried on in the "slightly low" case or eliminated altogether in the extreme cases. The temperature of the evaporator is high as is also the superheat.

The suction pressure goes down due to the compressor getting ahead of the reduced vaporization in the evaporator. The head pressure is low due to the fact that very little heat need be thrown off because little or no heat has been added in the evaporator. Reduced work is done by the compressor so the power consumption is low.

The best positive indicator of low Freon level is to check the level in the receiver against known required standards of level, immediately after stopping the machine. This check should be made only after some 15 to 30 minutes' operation, depending on manufacturer's recommendations. Example A gives one condition of low Freon level.

RESTRICTED CONDENSER AIR FLOW —Dirty "insulated" condenser coils, bent fins, or defective fan action will cause almost the same indications as excessive refrigerant, since both result in reduction of condenser capacity. The condenser pressure will be very high under this condition, and the evaporator pressure and temperature will rise due to the effect of the head pressure rise. A clean condenser is

*Sales Manager, Control Div., Perfex Corp., Milwaukee, Wis.

a good insurance policy against failure, because both mechanical and electrical load is reduced with an efficient condenser.

REFRIGERANT CHARGE EXCESSIVE—(See Example B) — An excessive amount of refrigerant will cause the effective condenser surface to be reduced by liquid backing up from the receiver into the lower coils of the condenser. As a result of this reduction in condenser area the head pressure rises. This rise in head pressure in turn causes the compressor to work harder and it gets behind in its work, causing the suction pressure to rise.

The rise in suction pressure causes the vaporizing temperature in the evaporator to rise, thereby reducing the capacity of the evaporator to balance up with the reduction in capacity of the other members of the "team."

The refrigerating effect is normal or

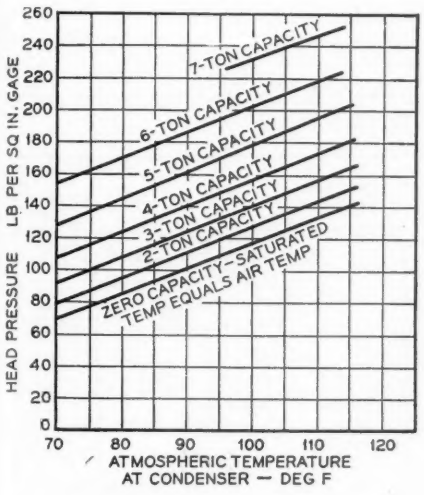


Fig. 3. *Operating head pressures for various atmospheric temperatures.*

low depending on the extent of the overcharge. The distinguishing indicators are: receiver full of refrigerant immediately after a test run of a few minutes, and while operating, the lower condenser coils will be noticeably cooler than the rest, especially in the extreme cases.

EVAPORATOR AIR FLOW RESTRICTED—The evaporator air flow could be restricted by dirty filters, dirty evaporator, disconnected flexible duct connection or that almost unheard-of condition of the fan running slowly or not at all through some freak defect. Condenser temperature and pressure would be low, due to reduced refrigeration being performed. Evaporator pressure and temperature would be low due to reduced amount of hot air passing through it, causing reduced vaporization rate. Less power, of course, would be necessary under these reduced capacity conditions.

The moral to this story is keep the filters and evaporator clean. The work of cleaning and inspecting the filters and evaporator will not be as great as the work caused by repeated mysterious reports of "not cooling properly."

AIR IN SYSTEM—The total pressure within an enclosure is equal to the sum of the partial pressures of each of the substances contained. If Freon vapor and air in quantity both exist within a refrigerating unit, the head pressure will rise because the total pressure is the sum of the normal Freon pressure plus the air pressure. The air collects in the condensers and reduces the area of heat transfer for the Freon trying to do the work of cooling. The collection of air causes the same indications on pressure as any other defect reducing condenser effectiveness.

The "foreign" air also flows through the pipes in the system, taking up space that should be used by the Freon doing its work. This reduces the refrigerating effect.

The most accurate indication of air in the system is to stop the unit and let it stand until the Freon in the condenser is at atmospheric temperature. Unless the head pressure is within about 10 lb. of the saturated pressure for this atmospheric temperature (see

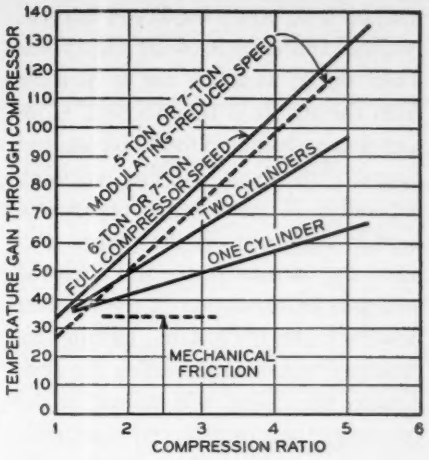


Fig. 4. *Heat gain through compressor due to mechanical and internal friction of compression.*

chart), the conclusion should be that there is air in the Freon pipes. The temperature should be judged accurately, of course, since this is the basis for the test. The amount of air in the system can be judged by the number of pounds over the saturated pressure the head pressure gage reads.

(1) The best way to be sure that all the air has been removed from a system is to pump all of the Freon vapor and liquid out of the system (including the air), pump a considerable vacuum on the unit and put fresh "known to be pure" Freon back in the unit. The "impure" Freon that was pumped out can be put into a storage cylinder by itself and the air "purged" out until the temperature and pressure show the cylinder to be free from air. This process should be a slow, careful one so that as little Freon as possible need be lost.

(2) The most useful or practical

Properties of Saturated Freon Vapor

Temp. (deg. F.)	*Pressure (Gage)*	*Temperature (deg. F.)*	*Pressure (Gage)*
30	28.46	110	136.0
32	30.07	112	140.1
34	31.72	114	144.2
36	33.43	116	148.4
38	35.18	118	152.7
40	36.98	120	157.1
42	38.81	122	161.5
44	40.70	124	166.1
46	42.65	126	170.7
48	44.65	128	175.4
90	99.6	130	180.2
92	103.0	132	185.1
94	106.3	134	190.1
96	109.8	136	195.2
98	113.3	138	200.3
100	116.9	140	205.5
102	120.6	142	
104	124.3	144	
106	128.1	146	
108	132.1	148	

method is to pump the Freon into the receiver and close it off by the valves. Then purge as much air as possible from the Freon in the receiver. Connect a vacuum pump to the piping and evacuate to about a 26-in. vacuum, if possible. Then close the pump connection and turn off the pump. Remove the vacuum pump and open the valves to let the Freon in the receiver flow back into the system. During this process if water is played on the condensers the Freon will collect in the condenser and receiver more readily.

Common sense and care while making repairs is good insurance against getting air into a system, because it does not flow in—men put it in.

EXPANSION VALVE TROUBLES—(See Examples C and D)—In general, any departure from normal orifice opening towards closing causes suction pressure to go down, condenser temperature and pressure to be low due to reduced quantity of Freon handled, power required to be reduced and the cooling effect of the evaporator to be reduced and super-heat to rise. Any departure from normal towards opening causes suction pressure to go up and super-heat to decrease. The power required will go up and the refrigerating effect will be low due to a good part of the Freon vaporizing in the suction line rather than in the evaporator where it can do its work. (This is the extreme case.) In the slight case, the refrigerating effect is increased due to more of the evaporator surface being covered with boiling liquid. In the extreme case the evaporator temperature will be high, due to the hot liquid spilling over into the evaporator without proper vaporization (due to higher suction pressure). The condenser temperature and pressure will be low due to very little refrigeration actually being done. But the power required will be high due to the compressor handling a great weight of Freon (in extreme case it sometimes handles liquid).

Reason for Noise

At any time a compressor handles liquid the noise will be excessive because of the relief heads jumping up on each stroke of the piston.

There is only one accurate way of determining expansion valve operation on the job and that is through the use of super-heat thermometers, one clamped to the pipe going out of each expansion valve and another thermometer clamped to the suction line at the point where the thermal bulbs are located. These thermometers will indicate the super-heat directly.

Other troubles such as shortage of refrigerant will also show on the super-heat thermometers, by spasmodic starvation of the evaporator with resulting unsteadiness of super-heat and thermometer indications.

There is only one satisfactory way to correct expansion valve defects—change the defective valve for one known to be set properly and in good condition.

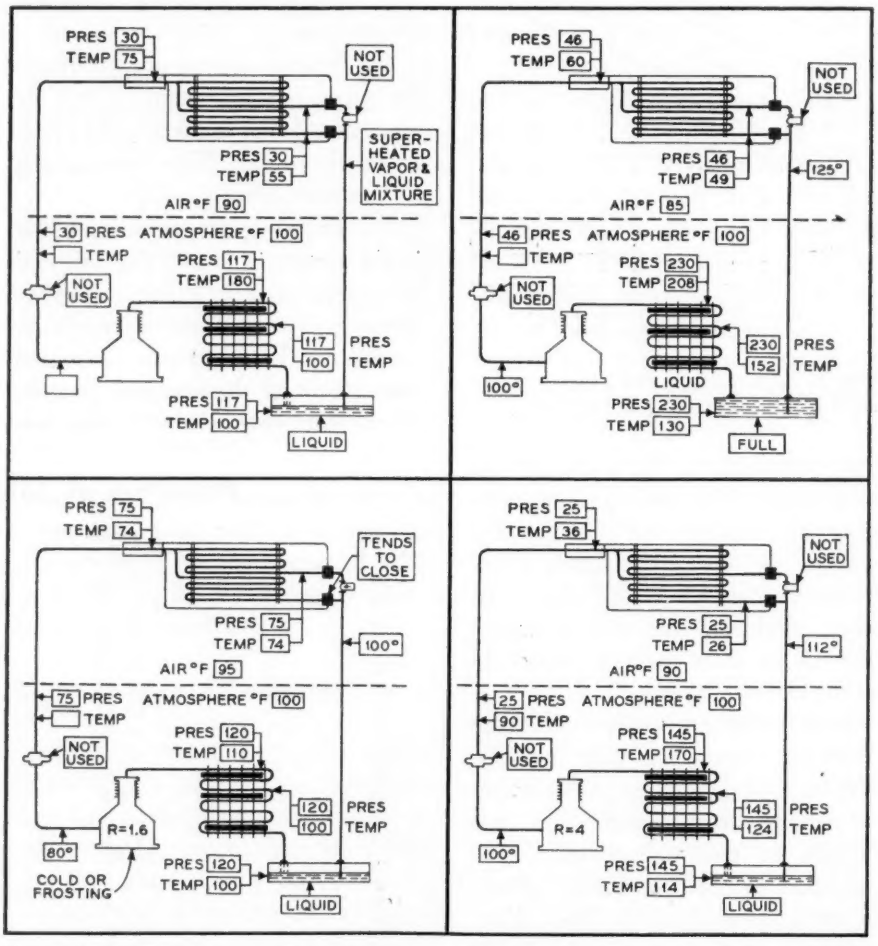
The reason we cannot in a short time set expansion valves on the job can be best expressed by the fact that the operation of one valve definitely affects the operation of the other valve when there is more than one valve on an evaporator. Examples C and D will show this. Example C shows the effect of one valve opening up (the other valve tries to close). Example D shows the effect of one valve closing off. Both of these examples are extreme cases.

REFRIGERANT CHARGE — Since we are mentioning a little about every subject we might as well clear up what is often a mystery. That is the amount of Freon a system needs.

The designer calculates the pressure and temperature he expects in each pipe and part of the system. He has tables available giving the weight of Freon contained in each part of the system under the conditions expected. By taking each individual part of the system and calculating the weight of Freon contained under maximum capacity conditions and adding up the individual weights he arrives at the total required amount of Freon in pounds.

Example A. *An unregulated system suffering from a Freon shortage.*

Example B. *Unregulated system with excessive Freon.*



Example C. *Conditions when the top expansion valve is wide open.*

Example D. *Unregulated system with a split evaporator with top valve closed.*

OPERATING TROUBLES

Condensing Units and Air Conditioners

	Refrigerating Effect	Compressor Noise	Expansion Valve Noises	Condenser Temp.	Evaporator Temp.	Condenser Pressure	Suction Pressure	Power Required	Explanation of Effects
1. Air in system*	Low	High or normal	Normal	High	High	High–Higher than corresponding temperature	High	High	Air collects in condenser — reduces heat transfer area—pressure above normal
2. Condenser—restricted air flow	Low	High or normal	Normal	High	High	Very high	High	High	Heat transfer in condenser poor
3. Refrigerant charge excessive	Low or normal	High or normal	Normal	High—lower coils relatively cool	High or normal	High	High or normal	High	Heat flow in lower condenser, coils blocked by liquid refrigerant
4. Refrigerant charge low	Low	High or normal	High—may hammer	Low	High—high superheat	Very low	Low	Low	Receiver empty—some gas to expansion valve
5. Compressor valves leaking	Low	Low	Low	Very low	High	Low	High	Very low	Pump efficiency low
6. Expansion valve or liquid line restricted	Very low	Low or high	Low	Low	High—high superheat	Low	Very low	Very low	Not enough refrigerant to evaporator—oil may be sucked into compressor
7. Expansion valve stuck wide open	Low	High or normal	High	Low	High—suction line cold	Low	Low	High	Pressure difference not sustained
8. Evaporator air flow reduced	Low	Normal or high	Normal	Low	Low	Low	High	Low	Poor heat transfer from air to refrigerant

*When the system has been shut down for a sufficient time for the condensing unit to have cooled to atmospheric temperatures, the head pressure as read on the high pressure gage should not exceed by more than 10 lb. pressure as read from the pressure temperature chart for Freon for the same atmospheric temperature—if required, purge air from the system in accordance with purging instructions.

This minimum amount is based on making sure that the end of the liquid pipe extending down into the receiver will be covered at all times. However, if there is not sufficient Freon in the system as to collect in the receiver and back up into the condenser at lower heat loads, there is no harm in more than the above illustrated minimum amount.

So there is some latitude in the amount of Freon necessary as long as there is a minimum weight or volume to cover the end of the liquid pipe at high heat loads and not too great a volume as to back up under less than maximum loads.

The approximate operating charge of Freon for the average 5- or 6-ton capacity equipment is 45 lbs. Some types of installations will operate satisfactorily on as low as 25 lbs. of refrigerant, whereas other systems require a minimum charge of 40 lbs. for maximum capacity operation.

CONCLUSION — Think about these basic facts every day as you install or service the units. Don't memorize worthless figures, but fix the fundamentals in your mind and you will find refrigeration surprisingly simple.

Bureau lists new dwelling Units in New York Boroughs

THE NEW YORK Regional Office of the Bureau of Labor Statistics, U. S. Department of Labor has tabulated the estimated number of dwelling units built in New York City in 1951 and 1952. Separated by Boroughs, the count is divided into one- and two-family residences; one- and two-family residences and stores; three- and four-family and five or more family houses.

Total number of new residential dwelling units in New York City during 1952 totaled 22,536, just about 9% down from the 24,749 dwelling units added in 1951. Only the Boroughs of Brooklyn, which recorded a 1952 total of 5,433 dwelling units compared to 2,507 in 1951, and Richmond, up to 971 in 1952 from the 183 dwelling units reported in 1951, showed increases.

The table shows comparative figures for both years.

Residential dwelling Units

Started in 1952	*Total*	*Bronx*	*Brooklyn*	*Manhattan*	*Queens*	*Richmond*
1-family	4,152	438	376	...	3,036	302
2-family	3,954	963	481	...	2,452	58
1 & 2 fam. & stores	7	3	...	...	...	4
3 & 4 family	7,709	2,114	2,305	97	3,193	...
5 or more fam.	6,714	1,719	2,271	1,837	280	607
Total	22,536	5,237	5,433	1,934	8,961	971
Started in 1951						
1-family	2,916	368	189	1	2,193	165
2-family	1,444	714	390	...	322	18
1 & 2 fam. & stores	12	8	1	...	3	...
3 & 4 family	37	6	4	...	27	...
5 or more fam.	20,340	5,503	1,923	2,779	10,135	...
Total	24,749	6,599	2,507	2,780	12,680	183

Acme sells rebuilt Parts to Dealers through Jobbers

ART GORSHEL had an idea. He wanted to form a company that dealt exclusively with the jobber. His company would act as a central distributing and rebuilding point, from which any oilheating jobber may place an order for a single unit or more and still receive the acceptable jobber's discount.

This Gorshel felt would be a boom to the jobber with limited capital who might feel financially handicapped to accept all the products of the many manufacturers. And he felt that his organization would be a boon to the original equipment manufacturers by making their products more readily available to many more jobbers.

The year was 1947. The company that Art Gorshel founded, the Acme Heating Supply Co., Inc., of Lynn, Mass., was housed in one-half of a store which originally was built for the purpose of a meat market and grocery. Its heating plant was a two-burner space stove and its office consisted of a desk bought for $15 from a local second-hand store.

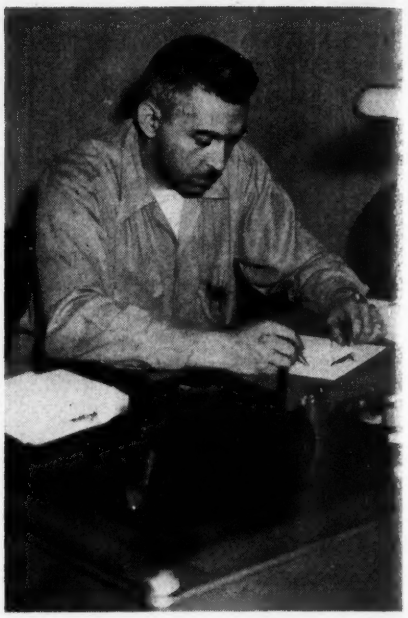
Today, six-and-one-half years later, Acme Heating employs 34 people, has four representatives covering all of New England, New York, New Jersey and Pennsylvania and lists more than 200 jobber houses utilizing its service. The records show Acme has rebuilt close to a quarter of a million assorted pieces used on oilfired equipment.

Lee Rogers, Jr., who joined the firm in 1949, is now executive vice-president in charge of production.

At present Acme has all franchises of authorization and the firm distributes Penn Controls, Detroit Controls and Floats, Sundstrand and Webster Fuel Units and many other lines. These, of course, are sold at the jobber level to jobbers exclusively. Dealer trade is referred to the Authorized Distributor list which accompanies all dealer price sheets.

Distributor dinner-meetings are held annually so that questions may be answered first-hand.

Samuel A. Tracer, an employee of Acme, heads an educational dealer program begun by Gorshel which to date has held 72 classes.



Art Gorshel, *president, Acme Heating Supply Co., Inc., began firm which deals exclusively with the jobber.*

Part of the **rebuilding department** *of Acme Heating is shown here. Acme has rebuilt close to a quarter of a million assorted pieces used on oilfired equipment since it opened its door six-and-a-half years ago.*

Lawrence S. Draper, *left, pump station manager and Lee Rogers, Jr., executive vice-president in charge of production, Acme Heating, inspect rebuilt parts.*

❖

Home Builders Show scheduled for Chicago, January 17-21

THE NATIONAL ASSOCIATION of Home Builders has announced its 10th annual convention and exposition will be held in Chicago, January 17-21.

In observance of the tenth anniversary of the industry-wide gathering, the association is developing a convention program of wide scope, with emphasis on "how-to-do-it-better" technical sessions and the major national issues confronting the industry, according to convention chairman Henry Fett. Of equal interest will be a record breaking exposition of building materials and home equipment.

Two hotels, the Conrad Hilton and the Sherman, will be required to house convention activities. Convention meetings, as well as exhibits, are scheduled bus service will provide transportation between the hotels.

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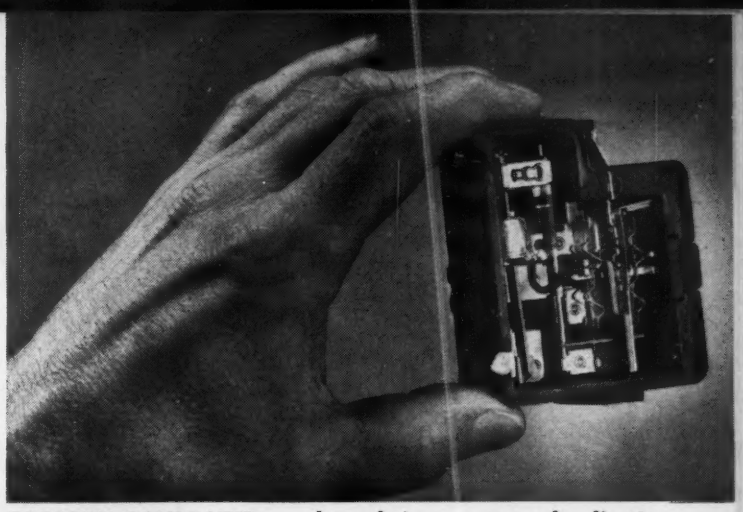
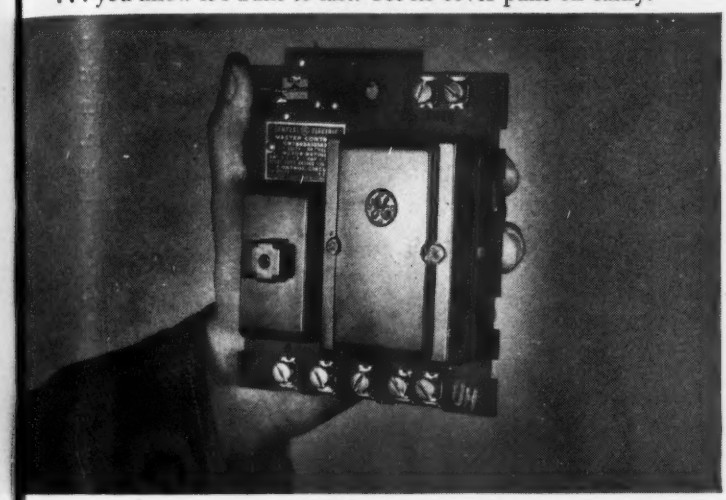
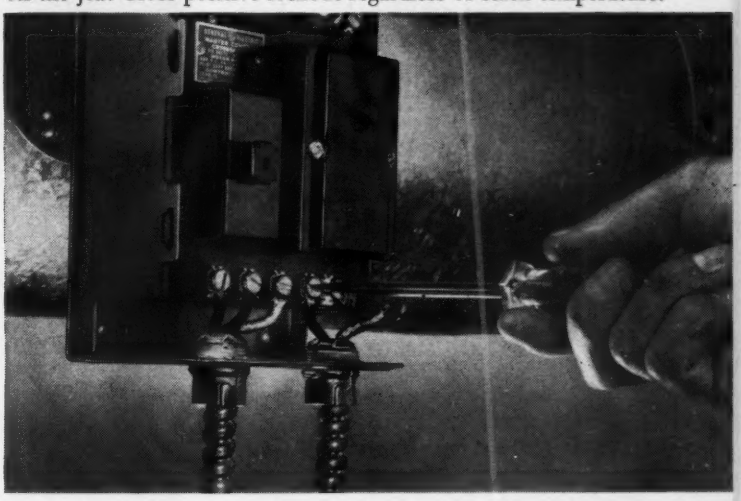


FACTORY CALIBRATED . . . thermal timer *never* needs adjusting on the job. Gives positive lockout regardless of stack temperature.



UNIT TYPE ASSEMBLY includes new combination transformer relay. Same core serves as transformer and relay armature.



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cuts installation time, saves service calls!

OIL BURNER CONTROLS

The Appliance Control Department of General Electric is devoted exclusively to developing and producing a complete line of controls for appliance and oil-heating manufacturers.

COMMERCIAL & INDUSTRIAL oilburning

A different Method for burning heavy Fueloil

Nebulyte burners fire odd industrial Jobs; fire heating Boilers using a new Pattern

by
Jean L. Dupuis

"HOW MANY makes of burners using No. 6 fueloil for apartment-house heating do you know how to service?" we asked a New York service expert who concentrates on big burners.

"All of them," he snapped quickly. Starting with Ace and winding up with York, he named more than a dozen of the horizontal rotary cup burners he had worked on.

"How about burners not of the rotary cup type?" we went on.

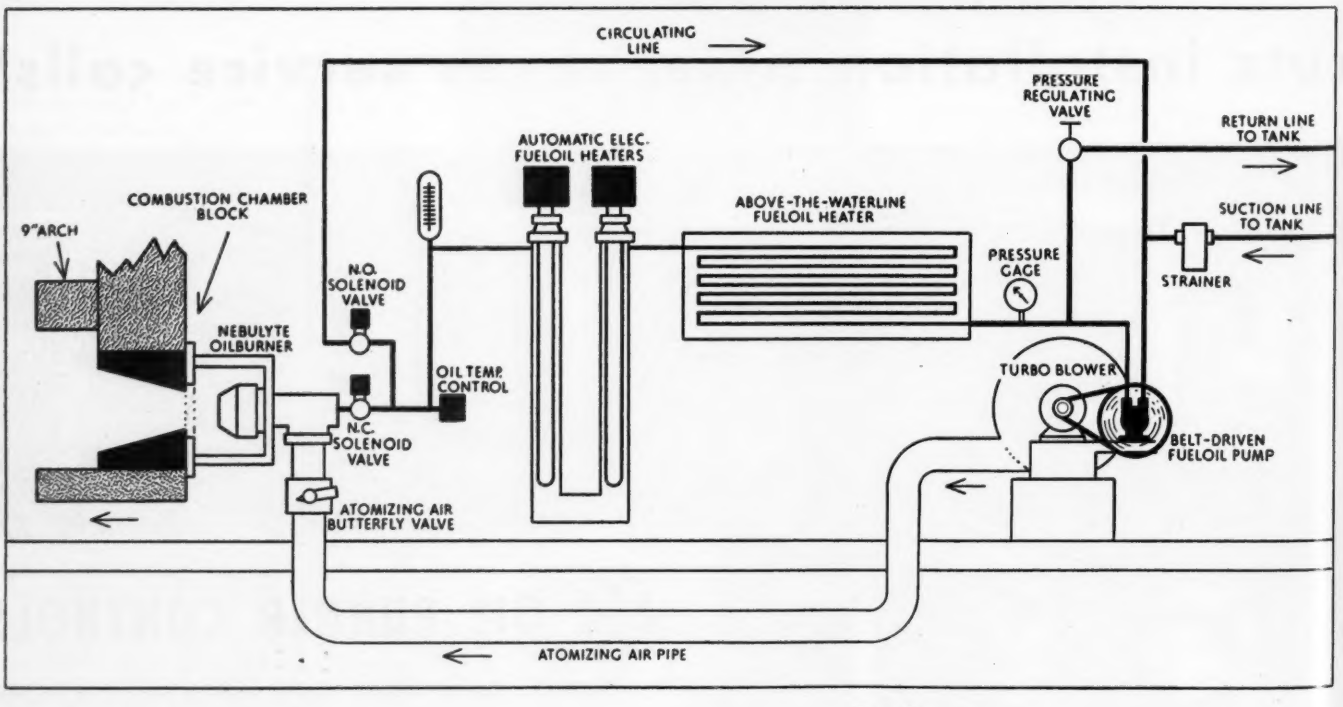
"I thought you said apartment-house heating using No. 6 oil," he tried to pin us down. "You indicated fully automatic!"

He was right about what we'd said. But he hadn't pinned us down. We'd pinned him down into admitting he didn't know about a make of oil-burner that can be used to heat an apartment house, that can use No. 6 fueloil, and that can operate on a fully automatic basis. This burner is the Nebulyte. It is not of the horizontal rotary cup type.

Top: *Nebulyte burner fires this apartment-house boiler at 12 gph, No. 6 fueloil. Boiler has two tankless water heaters, filled with boiler water although located above boiler waterline; same Alstrom "Vacuumatic" idea is used for above-the-waterline fueloil heater. In photo, sales engineer G. H. Bermont, of Fuller Heating & Maintenance Corp., is eyeing oil pressure gage located near burner.*

Bottom: *Schematic drawing of the 12 gph Nebulyte No. 6 fueloil installation described in the article.*

There may not be many Nebulytes in New York apartment houses, even though these burners are made nearby in Long Island City. Yet, experts at engineering, installing, and servicing heavy-oil installations should know about Nebulytes. For one thing, service experts



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who declare they understand and can work on all types of commercial-industrial burners may encounter a Nebulyte when answering a service call. Not fore-warned, they may exclaim, "Is that an oilburner?"—particularly if they think of all fully automatic No. 6 fueloil burners in terms of horizontal rotary cup burners.

The second reason experts should learn at least a bit about Nebulyte installations, particularly fully automatic Nebulyte installations, lies in the benefits of sheer academic knowledge. If you don't know the Nebulyte, there's a hole in your knowledge of commercial-industrial burners. Learning about this burner may give you a few extra points of knowledge on how fueloil can be burned.

On the score of academic knowledge: My article on a No. 6 fueloil job, which appeared in the August, 1953, issue of FUELOIL & OIL HEAT, explained how the controls of this rotary-cup burner installation were rigged so that the burner could not start until great amounts of fueloil at 170° F. were available for the burner from its pump set. Nebulyte ideas go even further than that. The Nebulyte specialist who explained to me the principles of his installations stated he does not want a fully automatic, No. 6 fueloil burner on one of his low-pressure steam heating installations to start firing until ample fueloil at 200° F. to 220° F. (he prefers 220° F.) is available for the burner. On high-pressure steam jobs, he commonly aims to heat No. 6 fueloil to 240° F. before it goes to his Nebulytes.

Turbo blower *and belt-driven fueloil pump of the 12 gph installation. On this small job, four ounces of air pressure suffices for the burner; up to eight ounces of air pressure is used on larger jobs. This installation has a simple suction-line strainer, but Nebulyte factory engineers recommend duplex strainers—factory makes a wide variety of fueloil strainers, emphasizes their importance.*

This *above-the-waterline Alstrom fueloil heater, used on the 12 gph job, is filled with boiler water despite its high location—is "Vacuumatic" type. Sales Engineer Bermont checks its indicator, an inverted glass bottle that shows shell of heater has water in it, no fueloil. Simple control panel of this installation is behind Bermont. Burner is controlled by M-H Protectorelay connected to a Pyrostat flame detector mounted on front of boiler, on flue clean-out door.*

The complete story about these unusual oilburners contains additional pointers about what can and can't be done with respect to burning fueloil efficiently. Many of these add to your academic knowledge.

There's a third reason for oilburner experts to learn at least a bit about Nebulytes. Knowledge of these burners covers dozens of odd applications for oilburners, from roasting coffee beans on a small scale to oilfiring a still or a glass-melting tank. Nebulyte enthusiasts believe that in every town and city there are a few dozen commercial-industrial oilburner jobs of highly special natures, which can be served best by burners of the Nebulyte type, and which can't be handled at all well by

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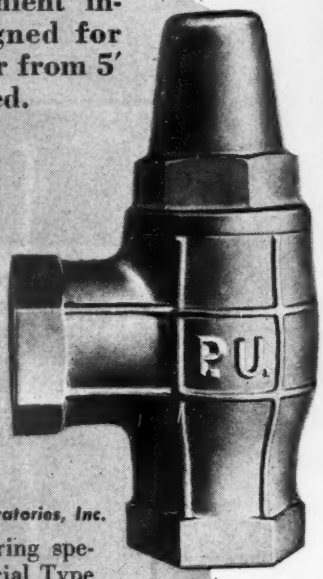

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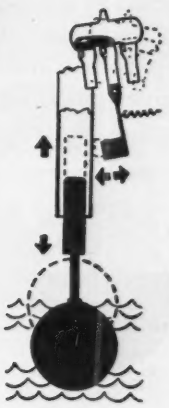

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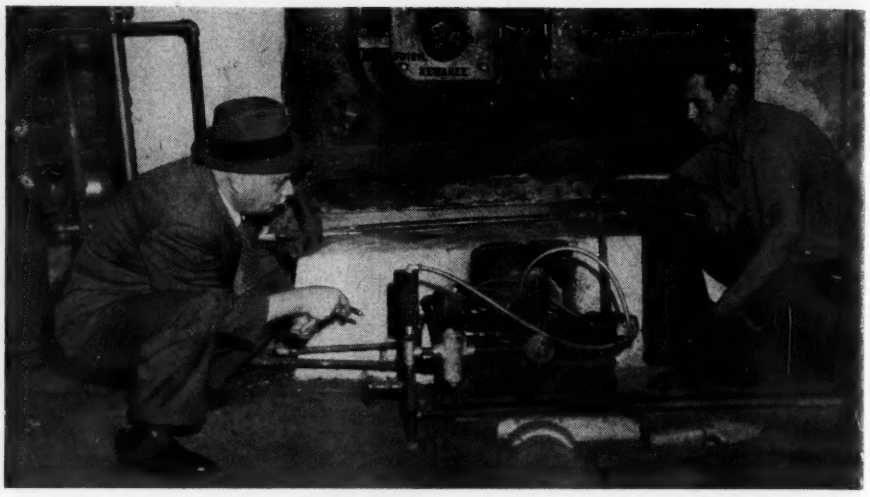
installing the usual types of oilburners designed for small-or-large heating plants. This has more than a germ of truth in it, for odd types of installations to be mentioned later usually are fired by oilburners 100% commercial-industrial in type, which bear little or no resemblance to, for example, gun-type burners and horizontal rotary cup burners made for automatic firing of heating plants.



Larger *Nebulyte apartment-house installation. Fully automatic burners fire two Kewanee boilers with No. 6 oil. One turbo blower and fueloil pump set is used on this two-boiler job: in summer one boiler is used, in winter two boilers.*

As an authority on oilburners in your city or home town, you may be called upon to solve problems of oilfiring some weird kind of gadget or unusual piece of commercial-industrial equipment. Possibly the only answer or best answer may lie in using a 100% commercial-industrial burner of the type of the Nebulyte. Burners of this type do use different methods for burning oil—methods not dreamed of by many rotary-cup burner specialists!

The accompanying drawing and some of the photographs relate to an installation of which certain Nebulyte enthusiasts are particularly proud because, they say, on this installation No. 6 fueloil is fired properly at only 12 gph. Admittedly to fire No. 6 oil at higher rates ordinarily is considered an easier assignment. As far as apartment-house heating using No. 6 fueloil goes, this is a relatively small job. The H. B. Smith 44" boiler provides heat and year-round hot water for a 24-family apartment house in which about 125 tons of coal were used yearly before the burner was installed.

Enter the boiler room of this apartment house on a day when no heat is needed, and you find the boiler standing by at about 180° F., providing hot water by keeping hot two over-the-waterline indirect tankless heaters. Two such heaters are used because this is a pork-chop or split-section boiler. The boiler also is keeping hot one over-

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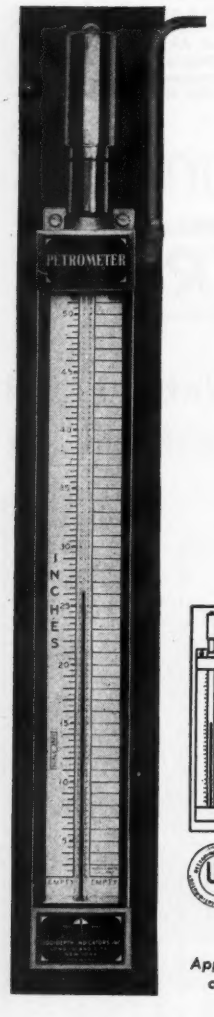

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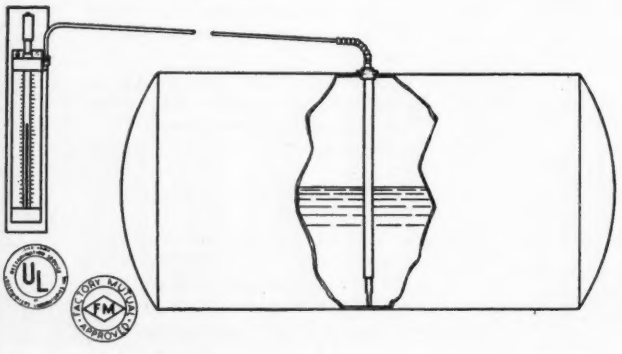

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the-waterline indirect fueloil heater. All three indirect heaters are Alstrom, Vacuumatic type.

Two electric heaters shown in the drawing provide a total capacity of eight kilowatts to aid the indirect fueloil heater. The Nebulyte specialist mentioned earlier—as preferring 220° F. fueloil for starting Nebulytes firing low-pressure steam boilers—declared that this is one installation which has electric heaters of excessive size. Eight-kilowatt capacity in electric fueloil heaters, he said, is not needed for a 12 gph job. No harm can come of this oversizing, however, because of course, each heater is controlled by its own fueloil temperature control. You get into trouble undersizing automatic electric fueloil heaters, not oversizing them!

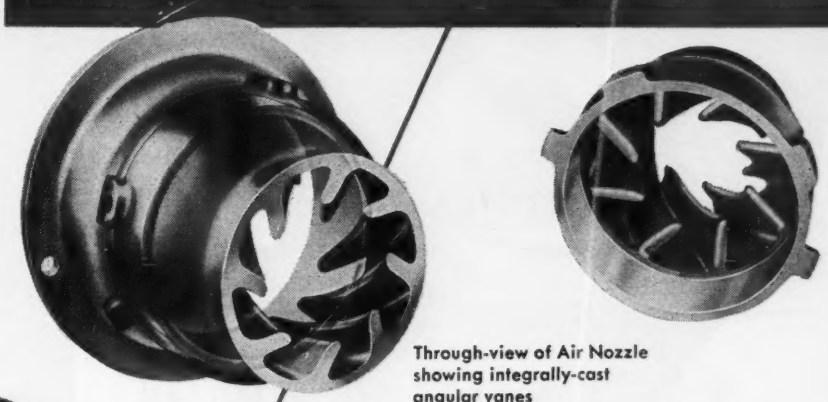
Firing Sequence

With the boiler thus hot to provide hot water, you turn on a switch to start the burner. Immediately, the motor of the turbo blower starts, and the belt-driven oil pump starts also, of course.

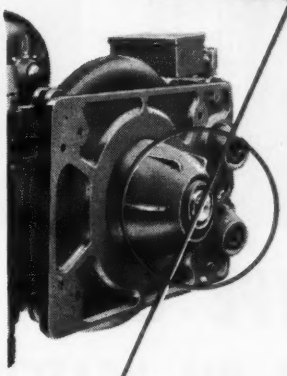
The normally-closed solenoid valve at the burner remains closed; no oil goes to the burner. The normally-open valve near the burner remains open, with the result that hot fueloil sent to the burner by the belt-driven pump flows through this normally-open valve to the circulating line, then back to the inlet of the pump. This circulation of oil from the pump, through the above-the-waterline heater and electric oil heaters, and back to the pump continues for several minutes. The electric heaters pitch in and help the indirect fueloil heater. They have to, for the design intention is to have 200° F. or 220° F. fueloil at the burner before it starts spraying fueloil into the firebox—and starts firing the boiler. Only after the reverse-acting temperature control in the oil line near the burner snaps on (because the oil in this line has become as hot as 200° F. or 220° F.) does the burner start firing. When this control snaps on, in effect it tells the M-H Protectorelay on this job to start the burner. This the Protectorelay safety control panel does by giving electric current to the two solenoid oil valves. Simultaneously, (1) the

DEVELOPMENT REPORT

New Enterprise "Angle-Vane" air nozzle fits flame pattern to any firebox size



Through-view of Air Nozzle showing integrally-cast angular vanes



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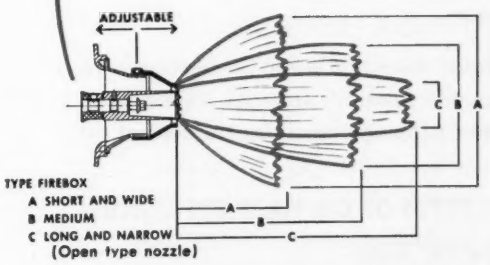
Adjustable feature affords easy regulation to provide desired flame pattern.

One standardized angle design eliminates possibility of incorrect selection or mis-application of nozzles.

It will pay you to look at this and other new features that make ENTERPRISE the *Quality Line* of Horizontal Rotary Oil Burners! Write today for full information.



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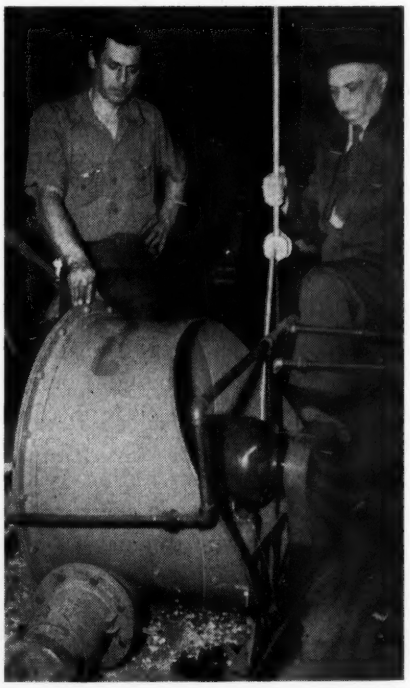
normally-open valve closes, on receiving current, and this blocks the flow of oil back to the pump through the circulating line, (2) the normally-closed valve opens, on receiving current, and this permits fueloil to flow to the burner, (3) the pressure regulator valve goes into action, increasing the oil pressure in the line from the pump to the burner; now that there is no longer a circuit open connecting the pump outlet to the pump inlet (through the two kinds of fueloil heaters), the pump draws oil through its suction line from the outside tank, and oil must return to the tank through the pressure regulator valve and return line.

The gph rate of the pump is considerably higher, of course, than the gph firing rate of the burner.

As the drawing shows, on this particular installation the input side of the pressure regulator valve is piped

. . . . . .

Blower *and pump set of the two-boiler job. Superintendent of this apartment house easily arranges for use of one boiler in summer to heat water, and two during heating season to provide hot water and steam heat. Superintendents also can easily increase or decrease the gph rates of their Nebulyte oilburners by adjusting the pressure regulator valves that govern the pressure of the fueloil pumped to the burners.*



to receive oil, with the burner firing, from the line that connects the oil pump to the indirect fueloil heater. Unheated fueloil returns to fueloil storage tank as the result.

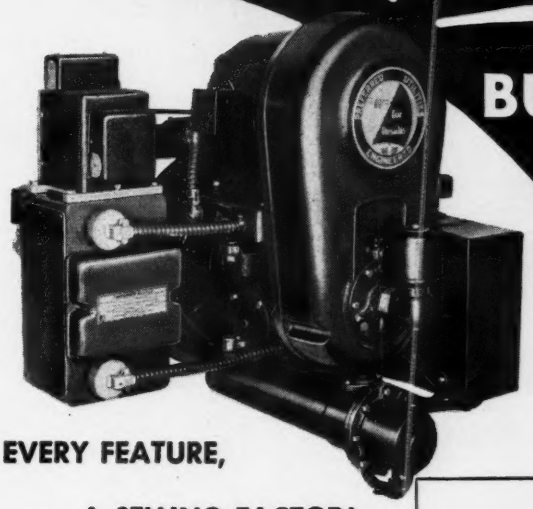
Another arrangement often is used. The input side of the pressure regulator valve is connected to a pipe tee in the line from the indirect fueloil heater to the electric fueloil heaters, and in the fueloil storage tank both the return line and suction line terminate in a tank bell. This arrangement results in a flow of hot fueloil (from the indirect heater) to the return line and tank bell, and a resultant flow of warm oil in the suction line. The suction line oil is warm because into the suction line (in the tank bell in the storage tank) flows: (a) all the hot oil returned to the tank by the return line, and (b) make-up, unheated fueloil from the tank, at a gph rate equal to the oilburner's firing rate.

Adjusting gph Rate

In servicing an installation like the one in the drawing, how do you adjust the oil rate or gph rate of the fire? Simply by setting the pressure regulator valve near the pump for lower or higher pressure. Using certain oil-handling parts in the Nebulyte burner, you may for example obtain a firing rate of about 7.0 gph, if you adjust for pump pressure of 25 lbs. You may obtain a firing rate of about 12 gph, if you adjust for pump pressure of 75 lbs. Normally you set the fire size by using minimum pump pressure of 25 lbs., maximum pump pressure of 100 lbs. To obtain smaller or larger fires than result from shifting the pressure through this range, you must install different oil-handling and oil-metering parts in the Nebulyte burner. If 100 lbs. pressure does not give a big enough fire, you need different parts in the burner. If 25 lbs. pressure does not give a flame small enough to please you, you need different parts in the burner.

You'll find few dealers engaged in making installations of the type just described for firing the apartment-house boiler at 12 gph. The manufacturer of the Nebulyte burner has not made a big point of selling its products through dealers—hasn't prepared sales literature of the kind dealers need to

BETTER EQUIPMENT
-Means MORE BUSINESS!



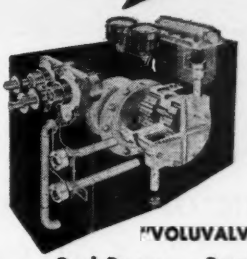
EVERY FEATURE,

A SELLING FACTOR!

Preferred Rotary Oil Burners bring together many built-in precision features . . .

- "Voluvalve" Fuel Regulation
- Dual-Pump Reservoir
- Complete Internal Wiring
- High Speed (4600 RPM) Belt Drive
- Precision Air-Oil Control
- Sure-Fire Ignition
- Extra Long Nozzle.

Preferred is precision-engineering at its best!



"VOLUVALVE" Dual Pumps — Reservoir and "Voluvalve" Systems.

The selling trend to PREFERRED continues. **PREFERRED Horizontal Rotary Oil Burners are the best in every respect because they are founded on a continuous background — of more than a quarter of a century — of installing, servicing, designing and selling burners.**

PREFERRED Rotary Oil Burners have maintained their leadership in the market because they are up-to-the-minute in basic design and *fully automatic in operation with the heaviest of oils.* Their advanced design makes them as modern as tomorrow and in constant demand wherever and whenever efficient, dependable combustion is needed.

SELL PREFERRED . . . see for yourself why we continue to say "easier sales — better profits — more repeat business!"

- *Write today for complete details on this outstanding rotary burner. Bulletin #175-A*

016

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY · NEW YORK 23, N.Y.

Paul C. Reilly, Architect Sears & Kopf, Consult. Engrs. Frank A. McBride Co., Heating Contractors

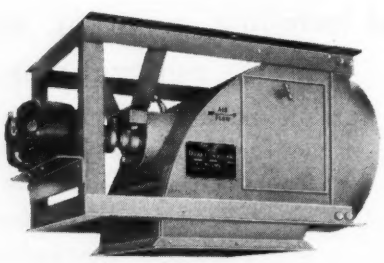
Newark's Cathedral of the Sacred Heart

One of the World's Great Cathedrals is equipped with WING DRAFT INDUCERS

Now moving to completion after fifty years of building, this magnificent edifice combines the architectural splendor of the past with today's utilitarian advancements. An example is the up-to-the-minute equipment that comfortably heats the spacious interior.

Handling a total load of 70,000 sq. ft. EDR are three H. B. Smith gas fired boilers. Even though a chimney was provided, consulting engineers decided that proper draft and removal of waste gases required a WING Draft Inducer for each boiler. Barometric dampers with relief gates were mounted integrally on each Draft Inducer.

The positive, dependable draft, in just the right volume, created by WING Draft Inducers assures efficient combustion at all times despite weather conditions, and without the need for tall stacks. Write for a copy of Bulletin I-52.

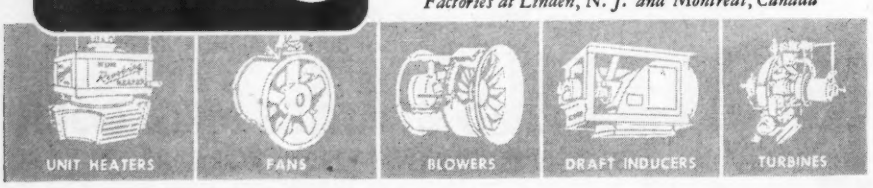


Wing

L. J. Wing Mfg. Co.

66 Vreeland Mills Road
Linden, New Jersey

Factories at Linden, N. J. and Montreal, Canada



sell Nebulyte burner installations which are fully automatic and able to use No. 6 fueloil—doesn't offer installation and service manuals covering such installations. However, the men who find merit in the Nebulyte pattern for firing apartment-house and similar heating boilers with No. 6 oil can list specifically as follows what they find good in this pattern:

Advantages

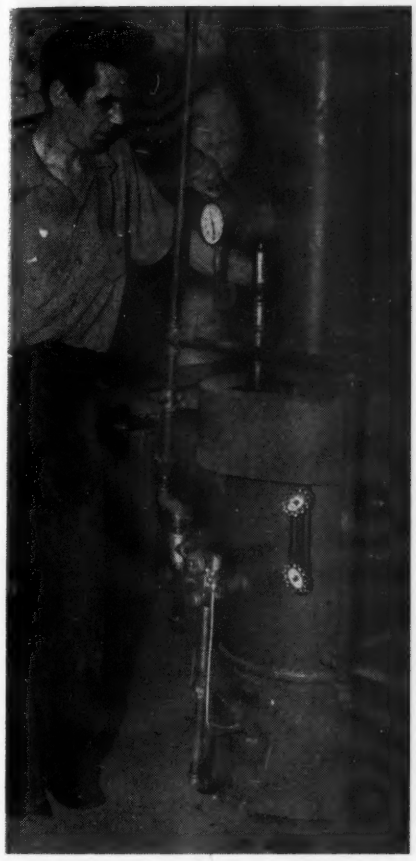
1. High boiler efficiencies resulting from excellent atomizing given by (a) unusually high fueloil temperatures, as has been indicated, and (b) using a combination of mechanical atomization and low-pressure air atomization; the Spencer turbo blowers usually used on these installations provide the burners with air at from four to eight ounces pressure.

2. No pitting is needed under most heating boilers—a tremendous advantage for apartment-house and similar installations having rock and basement-water complications. Where pitting is needed, very little is needed.

3. Great savings in equipment cost on jobs having two or more boilers, for one blower-pump set can serve two or more boilers, and each boiler needs only a relatively inexpensive set-up including a simple, motorless Nebulyte burner. The burners of such jobs can start and stop individually or simultaneously.

4. Especially suitable for boiler rooms troubled by partial flooding, complete flooding, or surface water—because the only equipment that must be low, in front of a boiler, is the burner and its ignition equipment. The burner has no motor, no bearings, no belts, no moving parts that submergence in water will damage. The electrical parts of its gas-electric ignition system that must be at the burner include only a simple, exposed insulator and electrode. For the most part, equipment that can be damaged by water can be installed high in the boiler room, where water will not reach it . . . this includes the motor-driven blower-pump set, the controls and wiring, the ignition transformer, and some of the solenoid valves.

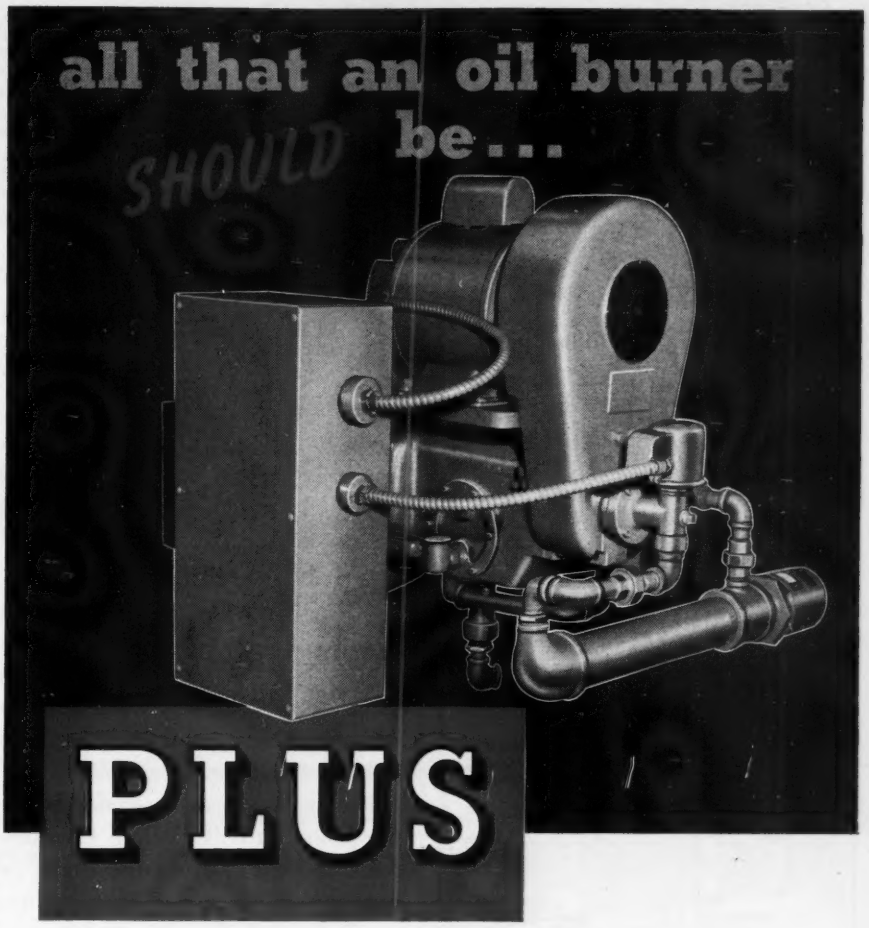
5. Fireboxes for boilers fired by Nebulyte burners are simple and easy to



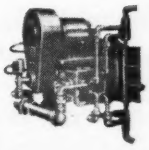
Close-up *of the Paracoil Type (for gasfired) fueloil heater that works for the two burners firing the Kewanee boilers. On jobs of this type, the Paracoil "GF" heats No. 6 fueloil to much higher temperatures than can be reached using indirect fueloil heaters filled with boiler water—in the Paracoil "GF" steam from a gasfired steam boiler heats the fueloil. Another tremendously important advantage is this steam boiler provides plenty of heat for the No. 6 fueloil even when the big boilers are cold.*

install. This relates partly to little or no need for pitting under boilers, partly to the fact that a steel front plate is not needed for these installations. A combustion chamber block is supplied with each Nebulyte burner. Installing this and providing a little 9" arch or a flat tile of refractory material usually ends all complications about designing and building the front of the firebox. The arch or tile provides an ignition-arch effect that stabilizes the flame, insuring starting of combustion where it should start.

Not surprisingly, the men who find advantages in Nebulyte burner installations of this type include G. H. Bermont, Sales Engineer of the Fuller & Maintenance Corp., the company that

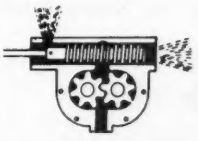


Designed and built to provide the most complete combustion with an absolute minimum of supervision and maintenance, Superior Rotary Burners combine the best time-tested features of horizontal rotary atomization with dependable automatic firing, plus . . .



THE 4-HOLE HINGE

This hinge has the effect of placing the primary pump between the fuel oil tank and the oil heater, permitting higher oil temperatures as required by modern catalytic oils, and eliminating the pump strain in pulling cold oil through the heater.



MORE POSITIVE VISCOSITY CONTROL

Superior's Constant Oil Rate Control provides uniform firing *throughout the entire firing range of the burner* regardless of viscosity variations in the fuel.

CONSTANT GAS PILOT

On Superior Combination Gas/Oil Burners, a continuous gas pilot remains lighted throughout all stages of the gas-firing cycle. Insurance records show that constant gas pilots provide the maximum operating safety. Superior's constant-burning gas pilot provides the greatest protection and the most positive ignition known to modern gas combustion . . .

You can grow with Superior. Choice unassigned territories are still available. For complete details contact Superior Combustion Industries, Inc.

for performance you can **BANK** *on*

SUPERIOR COMBUSTION INDUSTRIES INC.
TIMES TOWER, TIMES SQUARE, NEW YORK 36, N.Y.

SUPERIOR ROTARY BURNERS

At Heavy Oil Tank Installations *INSURE AGAINST*

Overfilling and Spillage.

Discharging into the wrong fill pipe.

Discharging into a tank with an open stick hole.

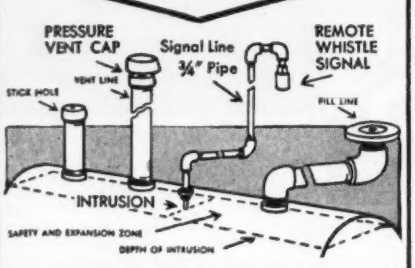
WITH

VENTALARM®

Whistling Tank Fill Signal

Special 3-Piece Assembly

(Type C)



1. PRESSURE VENT CAP
Installed at termination of main vent. Assures initial venting through signal vent.

2. TANK INTRUSION
Threads into any 2" tank opening. Its depth provides for safety and oil expansion zone.

3. REMOTE WHISTLE SIGNAL
Located anywhere near fill point. Signal sound created at *end* of signal vent.

•

YOUR CONSTANT GUARD AGAINST FIRE HAZARD, EXPENSE, PROPERTY DAMAGE AND CUSTOMER ILL-WILL.

•

Just one instruction needed . . .

"FILL ONLY WHILE THE WHISTLE BLOWS"

SEE YOUR REGULAR SUPPLY HOUSE

OHI

SCULLY SIGNAL COMPANY

76 First St., Cambridge 41, Mass.

sold the installations that appear in the photographs — and Harold Nickelsporn, Sales Engineer of the manufacturer of Nebulyte burners.

Certain old-timers may feel resentment because this was not mentioned earlier, but the fact is that the Nebulyte burner is made by The Anthony Company, Long Island City 1, N. Y. The Anthony name is better known to many old-timers than the Nebulyte name. "Serving industry since 1906," according to its literature on oil, gas, and oil-gas commercial-industrial burners, The Anthony Company is well known for its burners made for the odd types of applications mentioned at the start of this article.

Up in Maine, General Foods fries tons of potatoes using Anthony burners under vats. Tons of Maxwell House coffee are roasted every week with the help of Anthony oilburners—products of combustion, practically flame tips, cuddle every one of the coffee beans. All Johns-Manville White Gypsum-Board is dried in ovens direct-fired by Anthony oilburners. These burners serve a thousand metallurgical needs—are used in foundries, in core and mold-drying ovens. They fire "fume destructors" for incinerating foul or smelly gases from process plants. Although most of your everyday work has to do with oilfiring at the level of oilheating, you should know that fueloil serves well for the indicated diversified applications. You really should know, for example, that crematories can be served exceedingly well by the proper kinds of oilburners!

❖

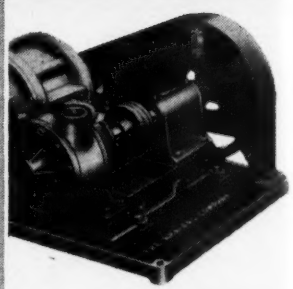
Elmer H. Wegner, formerly acting works manager, Cleaver-Brooks Co., Milwaukee, has been appointed general manager of manufacturing. Wegner joined Cleaver-Brooks early this year as director of purchases. He formerly was with the Ladish Company in this same capacity for 25 years. Aiding Wegner will be *Glenn W. Leupold* with the responsibilities of works manager. Leupold was formerly with the Allis-Chalmers Mfg. Co., A. O. Smith Corp. and most recently was works manager of two plants for the Heil Company.

SINCE 1926—in the application, design and manufacture of pumps—separators—hydraulic accessories.

KRAISSL

PUMPS and SEPARATORS for industrial oil burner service

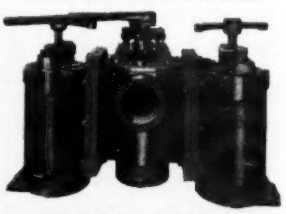
• direct burner service • booster service on pump type burners • simplex and duplex • standard and high pressure •



Class 60 PUMPS

Of the internal gear type, the "60" is machined to close tolerances—for maximum vacuum characteristics with heavy and cold oil. The outstanding design advantage is the ball bearing, V-belt reduction drive — connected to pump by means of loose coupling, which eliminates side deflection from pump shaft. Suction and discharge sizes from ½" to 2". Capacities, 75 to 2100 GPH; pressures to 100 psi.

Write for Bulletin A-1193



SEPARATORS

Adequate strainers for both suction and discharge service are essential on every heavy oil installation. Available with Underwriters Labels from ¼" to 4"; larger sizes up to 6".

Advantages of our design are: ease of cleaning; interchangeability of separator baskets — from coarse straining to fine filtration; elimination of replacement filter costs—cleaning of removable separator baskets restores original efficiency.

Ask for Bulletin A-1430

KRAISSL KRAISSL CO Inc

295 Williams Ave.
Hackensack, N. J.

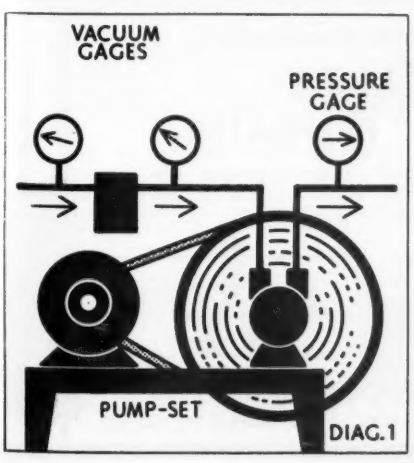
Everyday Snags

Industrial oil Strainers

"The first thing you do on starting work is to clean the suction-line fuel-oil strainer." That's the order which chief engineers of many large boiler plants, fired 24 hours a day, used to give their watch engineers. Whether the strainers needed cleaning or not, they were cleaned three times a day, at the start of each eight-hour watch. The idea was to spare no efforts to avoid trouble and shutdowns caused by plugged strainers.

Many years ago, perhaps 15 years, this different idea was advanced in the EVERYDAY SNAGS department: Don't clean suction-line strainers unnecessarily, for doing so is futile and wastes time. Clean them only when you know they need cleaning. Use vacuum gages to tip you off regarding this.

Diag. 1, which is similar to diagrams published every so often in this department, shows a vacuum gage at each side of a suction-line fueloil strainer. Because No. 6 fueloil has become heavier and heavier in recent years, ideas about proper readings from these gages have changed. Today, you can expect the left-hand gage (at the tank side of the strainer) to read as high as 17" with the pump running normally and after the boilers have been in use for many hours or many days. Lower readings of 10" to 15" once were considered proper, and indeed would be desirable today, but at the present time readings as high as 17" are obtained on many typical installations—even where fueloil suction lines



DIAG. 1

Announcing...

2 NEW MODELS in ROPER 3600 SERIES

NOW! SIZES #5 and #6 WITH CAPACITIES FROM 70 TO 226 G.P.M. AT 60 P.S.I. FOR WIDER SCOPE OF APPLICATIONS FOR INDUSTRIAL USERS

These new MAHB models, with built-in gear reductions for use with standard motors, are now offered to meet the demands of larger general purpose installations. Various combinations of pump sizes, gear reduction ratios, and motor sizes are available to provide a range of capacities covering liquids as thin as gasoline and as thick as molasses.

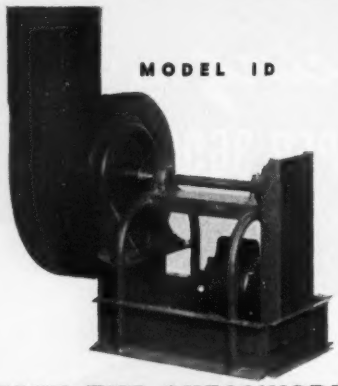
FEATURES

- **Compact . . . requires minimum installation space**
- **Totally-enclosed gear reduction running in oil**
- **Anti-friction bearings throughout gear reduction**
- **3 gear reductions for each size are interchangeable**
- **Operates indoors or outdoors—no pump house needed**
- **Sturdy bedplate provides rigid mounting for pump and motor**
- **Unusually smooth and quiet operation**

Get full details from your Roper distributor, or write for literature.

GEO. D. ROPER CORPORATION
770 Blackhawk Park Ave., Rockford, Illinois

ROPER *Rotary Pumps*



TAKE THE GUESSWORK OUT OF DRAFT!

GIVE YOUR OIL BURNER INSTALLATION A BREAK, with UNIFORM draft under all conditions

THE WHITTY ID Series of Induced Draft Fans have been scientifically yet simply designed to suit any steel or cast-iron boiler application.
No guess work—no complicated engineering. Just select the fan corresponding to the boiler being fired. Fan performance and design have been integrated in advance with the characteristics of the boiler, oil-burner, and load. Ordering a WHITTY INDUCED DRAFT FAN is easy. For open territories, prices, phone or write for Bulletin 8406.

The WHITTY CO., Inc.
86 Western Ave. Boston, Mass.
St 2-4711

less than 5,000 gallons of fueloil a day, is entirely too small.

How often strainers need cleaning depends on the amount of strainer area in the strainers, the capacity of the strainers for pocketing impurities, and the amount of strainer-plugging impurities in each 1,000 gallons of fueloil delivered to the installation. The suction-line strainer of one industrial plant was cleaned three times a day, before vacuum gages were installed to give a positive tip-off about when the strainer needs cleaning. Now under normal conditions this strainer needs cleaning only once in five days—it gets 1/15th the amount of time and attention it used to get. When occasionally bad loads of oil were delivered, however, the strainer had to be cleaned every day or two. Using 1,500 gallons of No. 6 oil per day, this plant is located near New York, burns the type of heavy oil usually delivered in New York.

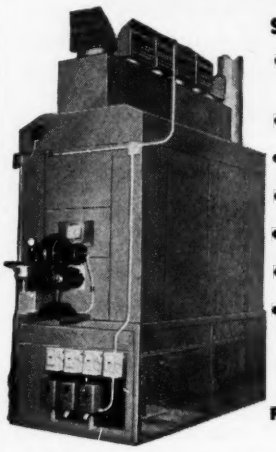
Instead of using the two vacuum gages shown in Diag. 1, many plants use only the one vacuum gage shown in Diag. 2. The men in charge of these plants find out the usual readings of their vacuum gages, and clean suction-line strainers when readings 3″ or 5″ higher than usual are obtained.

ARTCRAFT

Direct Fired

SPACE HEATERS

THE MOST MODERN, ECONOMICAL AND FLEXIBLE METHOD OF HEATING LARGE AREAS



SERIES "A" FOR
- INDUSTRIAL BUILDINGS
- BARRACKS
- REPAIR SHOPS
- HANGARS
- WAREHOUSES
- SCHOOLS
- RECREATION HALLS, CHURCHES, ETC.

FIRED WITH GAS OR OIL

Capacities: 200,000-2,000,000 B.T.U.
(Also Suspended Furnaces, 75,000-750,000 B.T.U.)

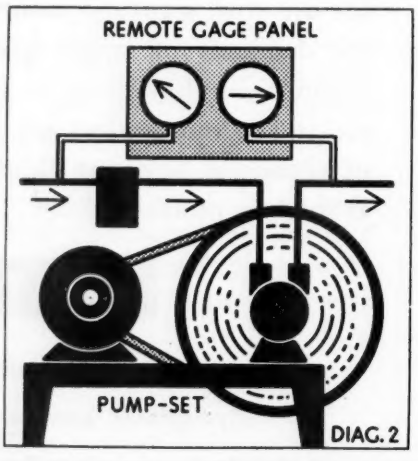
Manufactured by

Chicago Steel Furnace Co.
9326 S. ANTHONY AVENUE
CHICAGO 17, ILL.

are not undersize and where the fueloil is heated properly.

When the right-hand vacuum gage in Diag. 1 gives a reading 3″ or so higher than the reading of the left-hand gage, you have your tip-off that the suction-line strainer needs cleaning.

Assume that the size of the straining holes or the screen-mesh of a suction-line strainer is not too small or too large. Then you can safely say a strainer that needs cleaning more often than once a day, on a job using



DIAG. 2

The idea of the panel in Diag. 2 is to eliminate or reduce fluttering of the needles of the gages and lengthen gage life. Each gage is at the end of a 24″ to 36″ piece of 5/16″ copper tubing. Charged with air from time to time, the tubing provides an air cushion that gives smooth, steady gage readings—and that helps keep

EXTRA

Delta MAKES THE ONLY OIL-FIRED **UNIT HEATER** WITH AN OUTPUT OF 220,000 BTU/HR

Send for Complete Information

DELTA HEATING CORP.
TRENTON 8, NEW JERSEY

AUTOMATIC HEATING

IN CANADA KRESNO-STAMM Montreal 24 Quebec

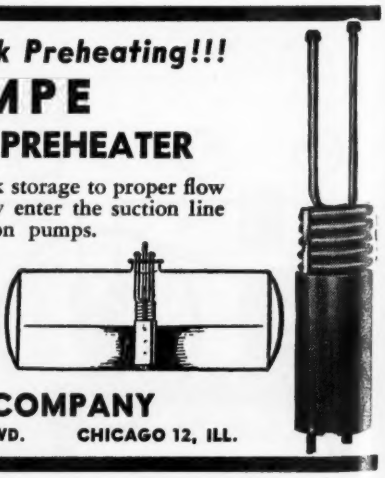
Solve Bulk Tank Preheating!!!

REMPE

"Hot-Spot" PREHEATER

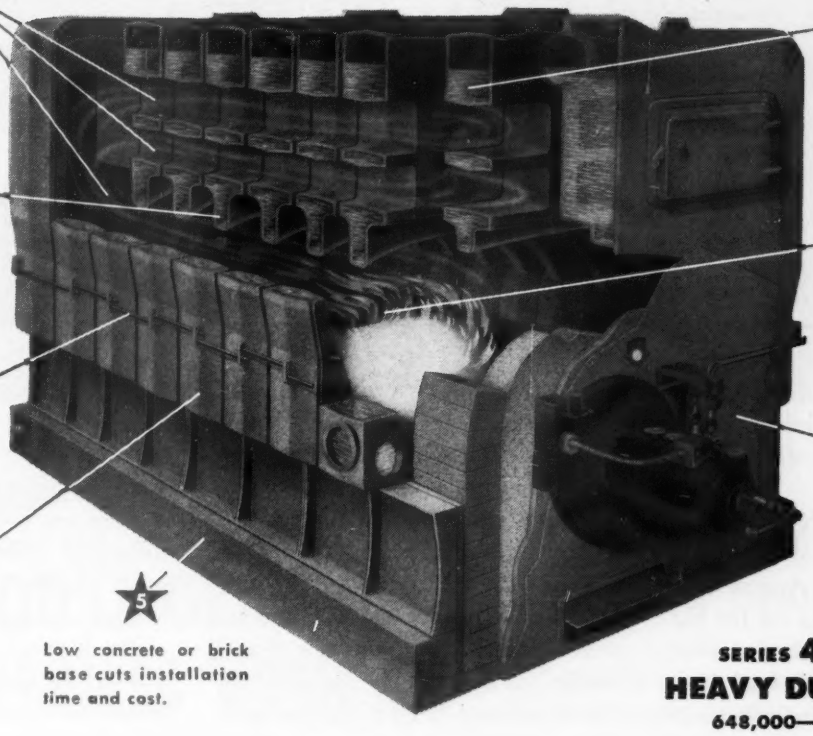
Heats heavy oils in bulk storage to proper flow temperature before they enter the suction line —takes load off suction pumps.
Heating medium — steam or hot water.
Construction — all steel — connections for any diameter tank.

Write for bulletin



REMPE COMPANY
336 N. SACRAMENTO BLVD. CHICAGO 12, ILL.

NOW DESIGNED FOR HORIZONTAL ROTARY BURNERS

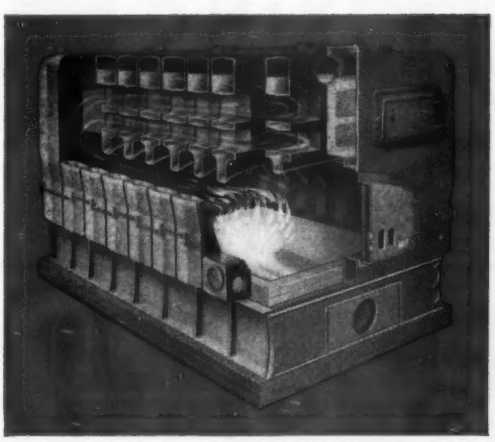


1. Balanced fire travel assures equal distribution of heat to all vital heating surfaces.
2. Curved extra primary heating surface extends from crownsheet to greatly increase area directly above the fire.
3. Individual short tie-rods for easier assembly and longer boiler life.
4. Rugged cast iron construction for durability and trouble-free performance.
5. Low concrete or brick base cuts installation time and cost.
6. Large waterways permit quick, efficient water circulation through boiler.
7. Large primary combustion area for better burning conditions and maximum heat release from fuel.
8. Special steel front plate and section provides for easy installation of rotary burner.

SERIES 40 AND 44
HEAVY DUTY BOILERS
648,000—2,712,000 BTU

WEIL-McLAIN

IT IS MORE PROFITABLE TO SELL *EXTRA VALUE*



The standard Series 40 and 44 Boiler
These heavy duty boilers have built an enviable reputation for economy and service-free operation in schools, commercial and industrial buildings. Wide range of capacities—easily converted from one fuel to another.

Weil-McLain presents an important new development in its Series 40 and 44 Boilers. Special features have been added to these heavy duty boilers which adapt them for operation with the leading makes of horizontal rotary oil burners.

Series 40 and 44 Boilers provide a highly efficient installation when fired with heavy oils. A large primary combustion area and a fire travel through flueways designed to provide complete utilization of secondary heating surfaces are important reasons for the economical operation of these boilers.

SPECIAL STEEL FRONT PLATE AND SECTION
for simplified Rotary Burner installation

Furnished as standard equipment is a specially designed steel front plate. The size and location of the various openings in this plate are in accordance with the specifications of the rotary burner to be installed. The plate is bolted to the front section of the boiler, permitting easy attachment of the burner!

Easier, faster erection

Series 40 and 44 Boilers are assembled with individual short tie-rods, which permit rapid erection without special equipment. Sectional construction makes it easy to add capacity, should future additional heating loads require it. In existing buildings, Series 40 and 44 Boilers can be installed without structural alterations.

Full information is given in Bulletin C-157 . . . send for your copy.

WEIL-McLAIN
BOILERS · RADIATORS

WEIL-McLAIN COMPANY
MICHIGAN CITY, INDIANA

Dealers Profit with

Instant Acting
SABANOL
THE HOMOGENIZING FUEL OIL TREATMENT

Burners and strainers always clean . . . Flame steady and bright . . . clogging eliminated . . . Pump strain diminished.

SABANOL transforms sludge so that it burns with the oil. Picks up water due to condensation and disperses it so minutely that it does not interfere with combustion, and reduces tank corrosion. Most sludge problems are eliminated because SABANOL cleans the entire fuel oil system from tank to burner to stack. Its regular application prevents new sludge accumulation.

Provides clean and maximum burnability of even the cheapest grades of fuel oil. Reduces soot formation. Reduces your service problems . . . increases your profits.

WRITE TODAY *for Exclusive Franchise Details*

AMERICAN SAND-BANUM CO
Established 1926
9 Rockefeller Plaza
New York 20, N.Y.

out of the tubing No. 6 oil that might become cold and congealed and then might result in improper readings from the gages.

Too Kind to oil Pump?

"Enjoyed greatly your August issue story, 'Small Boiler heats oil for big Job using #6 oil.' Though somewhat controversial, the method used both to keep the fueloil lines hot and to heat the fueloil to 170° is both effective and interesting . . . and difference of opinion makes the world go 'round.

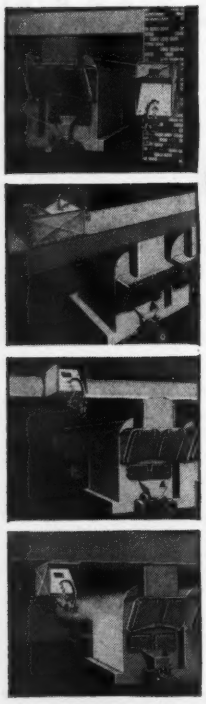
"But aren't you being just too-too kind to the heavy-oil pump set in providing control 'G' to keep the pump set idle when the water in the shell of the fueloil heater is cooler than 120°F.?

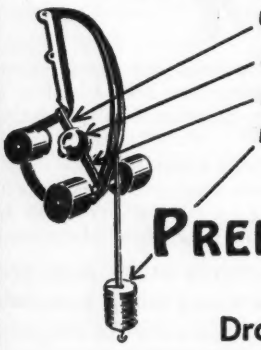
"After all, you've got a run-around pressure regulator valve—not simply a relief valve—at the pump set itself. That is unusual. And if you overwork the motor of the pump set, an overload protector that works properly will turn off this motor. I say that it's going too far to provide that control that keeps the pump set idle when the fueloil heater is cold."

Here are comments answering the industrial oilburner engineer who wrote the above letter:

The installation described in the article is unusual in having more than 300 ft. of suction and return lines, mentioned in the article. That's the reason for providing the run-around pressure regulating valve at the pump

Make that next job a *better* job





— with a **PREFERRED** Industrial Draft-A-Justor!

A small detail but a big difference because you'll help your customer cut his fuel bill 10 to 30%! The Preferred Draft-A-Justor controls natural draft *automatically*. Statically balanced, easy to install and adjust. Can be mounted in any of the four positions shown — because it is 100% statically balanced.

Available in all sizes to meet your needs on any job. Write today for Bulletin 800

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY · NEW YORK 23, N. Y.

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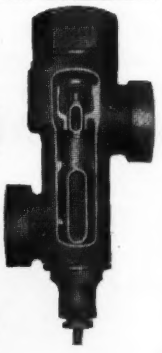
Yula

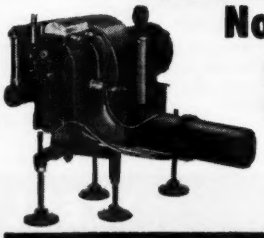
Automatic, Thermostatic
MIXING VALVES



Ideal for Domestic Water Control
"The Mixing Valve Pioneers"

YULA WATER HEATERS, INC.
166 WEST 225th STREET, NEW YORK 63, N. Y.

★ RAYFIELD ★
AUTOMATIC
No. 5 OIL BURNERS



REDUCE HEATING COSTS...
INCREASE YOUR PROFITS

Burn No. 5 heavy fuel oil. Self-contained, all electric. Self-lubricating. Many new exclusive features. Write for full details.

GOOD TERRITORIES OPEN

C. L. RAYFIELD CO.
2010-18 S. Halsted St., Chicago 8, Ill.

YOU'LL GET MORE BUSINESS WITH AN INHIBITED FURNACE OIL

Add NEW Dispersant FO
(FURNACE OIL INHIBITOR)
to your heating oil!

Reduces, even ends filter screen and nozzle deposits

Inhibits rust in storage tanks and lines

Eliminates many costly home service calls

Easy to add at any temperature—in storage or truck tank

Economical—1 pint/1000 gallons of oil stock

Here's a way to beat the competition in your selling area. With new liquid Dispersant FO in your home heating stock, consumers will prefer your product, and your service calls will be greatly reduced. Oronite's new Furnace Oil Additive will keep home heating systems clean and trouble free by checking the formation of screen-clogging gums and by inhibiting rust and corrosion in tanks and pipes.

Dispersant FO is easily added to your storage tank or when filling your truck tank. It is also economical to use—just 1 pint to every 1000 gallons of burner stock.

Write or phone the Oronite office nearest you for complete information

ORONITE CHEMICAL COMPANY

38 SANSOME STREET, SAN FRANCISCO 4, CALIFORNIA
30 ROCKEFELLER PLAZA, NEW YORK 20, NEW YORK
STANDARD OIL BLDG., LOS ANGELES 15, CALIFORNIA
600 S. MICHIGAN AVENUE, CHICAGO 5, ILLINOIS
MERCANTILE SECURITIES BUILDING, DALLAS 1, TEXAS

ORONITE CHEMICAL COMPANY
THE NAME TO WATCH IN CHEMICALS
®

2636

set. A relief valve was not used because when in action it probably would chatter; the pressure regulator valve will not chatter.

Control "G," which keeps the pump set idle when the fueloil heater shell is cooler than 120°F., is sure-enough a nicety. Because the job has this control, there's a splendid sequence of equipment start-ups when you turn on all the switches after having kept all the equipment idle for, say, four hours.

After you turn on all the switches following a shutdown of the equipment:

First, the small burner using light fueloil starts up, and starts to heat the fueloil heater.

Second, when the temperature of water in the shell of the fueloil heater reaches 120°F., the pump set is turned on automatically. The small burner continues running; it will raise the temperature of the boiler it fires to 200°F. or 220°F., depending on the setting of the boiler temperature controls.

Third, when the temperature of the fueloil in the heavy-oil reservoir near the burner reaches 170°F., control "E" (in the reservoir) tells the big heavy-oil burner to start—because No. 6 oil heated to 170°F. is available for the atomizing cup of the big burner.

Now, control "G," which came to about $15 installed, plays a big part in providing such nice starting-up of the component parts. In addition, this $15 control provides highly effective protection against operation of the fueloil pump set with the fueloil heater cold. Anyone who does not consider these sum-total advantages worth $15 on a fully automatic burner installation working in conjunction with a 200 horsepower boiler should, of course, skip installing control "G."

Boiler Labels

A steel boiler expert writes:

"I see in the sales literature of many boiler manufacturers that the construction of the boilers is said to be in accordance with the requirements of the ASME code.

"One may infer from this that the boilers are in fact ASME-approved boilers. But this inference is incorrect —simply because the ASME stamp does not appear on the boilers themselves.

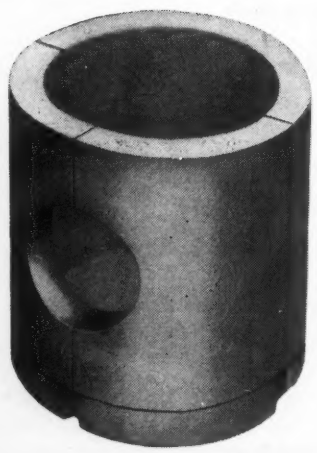
"My own investigations indicate that the only proof of ASME construction and approval is the actual stamp on a boiler, though it is true, of course, that the ASME clover-leaf symbol cannot be used in literature unless the boiler has been approved."

Burner start-up Points

You may find this hard to believe, yet it's true that certain pressure burners have been started without the installation men or servicemen having bothered to look at or tighten their atomizing nozzles. The factory engineer who tells about this says he shipped a batch of burners to a dealer and, knowing these were needed for the particular jobs, he put 1.0 gph, 80° nozzles in the burners — hand tight. Summoned because of trouble, he found the nozzles still hand tight.

Now he has issued these instructions to dealers using his burners:

Do Your PRESENT PRECAST CHAMBERS Give You ALL these Advantages?



1. Low initial cost.
2. Low installation cost — only 5 pieces to assemble.
3. K-factor equal to insulating brick.
4. Excellent performance with either high or low pressure burners.
5. Scientifically packed to prevent breakage.

. . . if the answer is NO -- contact us NOW!

KOLB REFRACTORIES COMPANY
Meadow & Jackson Sts.
Philadelphia, Penna.

KolbKast Insulated Chambers

Mueller Climatrol

TYPES 116-216 Winter Air Conditioners

90,000 — 116,000 — 130,000 and 150,000 Btu input

New! Beautiful!

Pre-Wired
Pre-Assembled
Gas or Oil Convertible
Low-Cost Installation

This attractive Mueller Climatrol Type 116-216 is designed not only to please your customers, but to help ease your installation job. It's pre-wired and pre-assembled, cuts your labor time, increases your profits. Because it's shipped in two sections, it goes down narrow, winding basement stairways without trouble.

The Type 116-216 is compact (only 45" high, 24½" wide, 61½" long—on smaller sizes); is available in four sizes—90,000, 110,000, 130,000 and 150,000 Btu input.

Another thing! The Type 116-216 has famous Mueller Climatrol Designed Convertibility. Say your customer doesn't have gas heat, yet. But he wants the convenience and comfort of automatic heating. So he buys the unit with the oil burner installed now — converts to gas later. The conversion cost is small because Mueller planned it that way — with *Designed Convertibility.*

Go over this top-notch heating plant with your customer. Show him all the things that will please him. Corrugated-asbestos insulation, with aluminum foil backing. Heavy-gauge, welded-steel heat exchanger. Free-floating radiator, connected to drum at back only, for quiet operation. It's easy to sell because it's the best home-heating plant manufactured today!

Write for descriptive literature to the L. J. Mueller Furnace Co., 2050Q W. Oklahoma Ave., Milwaukee 15, Wisconsin.

96th Anniversary

Mueller Climatrol

1. Before you leave a newly-installed burner, remove the drawer assembly or gun tube assembly from the burner.

2. Make certain for yourself that the nozzle in the burner matches the requirements of the particular installation.

3. Tighten the nozzle so that no fueloil will leak out around the nozzle threads.

4. Set the spark points or electrodes in precisely the manner described in the burner's installation and service manual.

5. Don't fail to make combustion tests; include tests of CO_2, smoke, over-fire draft, and smokepipe draft. Adjust usually for .01" to .02" over-fire draft. A job passes if the CO_2 is not below 9%, and the Shell-Bacharach smoke-scale reading is not higher than 3.

6. Talk to the owner, calling his attention to each point on the "Owner Instruction Card," which you hang up carefully in the basement for him.

Do you play safe in starting up a burner that has stopped "on safety" or "gone off on safety lock-out"? And do you teach owners to play safe?

A burner that's stopped on safety may be sick—either the burner or its safety control panel are performing improperly—and ignition failure and delayed ignition are frequently encountered reasons for burners' stopping on safety.

You would not want to be standing close to a smokepipe or a tight-closed firing door of a boiler or furnace, if after you start up a sick burner it sprays fueloil into its firebox for, say, 30 seconds—then, because it's suffering from delayed ignition, lights the atomized oil that's accumulated in the firebox.

You would not want a burner owner to use a safety re-set device on a smokepipe-mounted safety control panel—to re-start a sick burner—then just stand there for a minute or two listening to find out if the flame lights.

Off on Safety

Start a burner safely this way, after it has "gone off on safety":

1. Turn off an on-off burner switch located near the burner. The installation should have such a switch.

2. Re-set the safety device of the oilburner control panel. While he does this, an expert tries to ascertain whether or not the panel really was "off on safety."

3. Open wide a firing door or flame observation door of the furnace or boiler to give you a clear view of the firebox or combustion space.

4. Keeping an eye on the open firing door or flame observation door, turn on the oilburner main switch which you turned off as step #1. If the burner motor runs but you see no flame in the firebox or combustion space, turn off the oilburner main switch in about 10 or 15 seconds. Don't permit the burner to run and run, for you might encounter delayed ignition.

The results of this would be reduced by the open firing door or flame observation door, but even then there's no sense in permitting atomized oil to accumulate in a furnace or boiler for 15 to 90 seconds—then be touched off by a spark that's feeble, delayed, or inadequate.

NOW AVAILABLE!

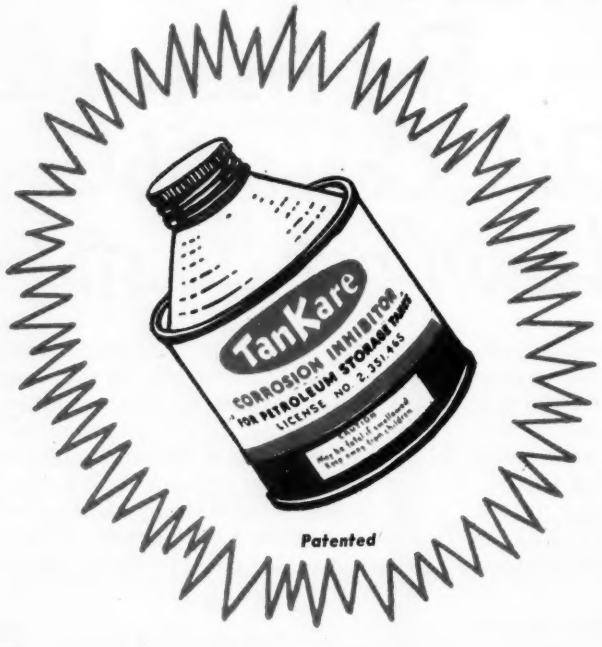
. . . from the Laboratories of a

Major Oil Company:

. . . the Cure for your problem of Leaky Oil Tanks!

One application of TanKare assures

3 YEAR PROTECTION AGAINST RUSTING



TanKare

is the result of years of research and actually has been field-tested in more than 50,000 homes with remarkable results. Now—for the first time—it is available to all oil burning homes as insurance against costly tank failure.

Write Today to—

ALLIED ENGINEERING CO.

Shell-Designed Combustion Heads

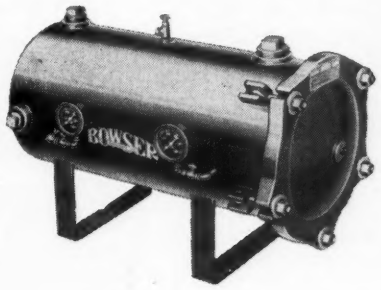
Boston 34, Massachusetts

THE PROVED WAY TO INCREASE SALES AND PROFITS

FILTER YOUR PRODUCT AND SELL MORE OIL WITH . . .

BOWSER
Fuel Oil Filters

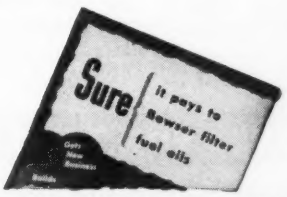
Because clean oil improves burner performance, customers PREFER Bowser-filtered oil. You can keep satisfied customers, close contracts quicker, get NEW BUSINESS and reduce service costs—and you can do it at a cost per gallon that is practically nil!



Bowser Fuel Oil Filters are available for truck mounting (above) or for bulk plant installation (right). Replaceable filter cartridges remove micronically small particles and condensed moisture.

HERE'S PROOF!

Read the statements by typical dealers who increased sales and profits with Bowser Filters . . .



WRITE FOR "BULLETIN 839." IT TELLS HOW OTHERS DO IT.

MERCHANDISING FOLDER

This folder, available to users, has helped many dealers sell more fuel oil . . .

BOWSER ESTABLISHED 1885

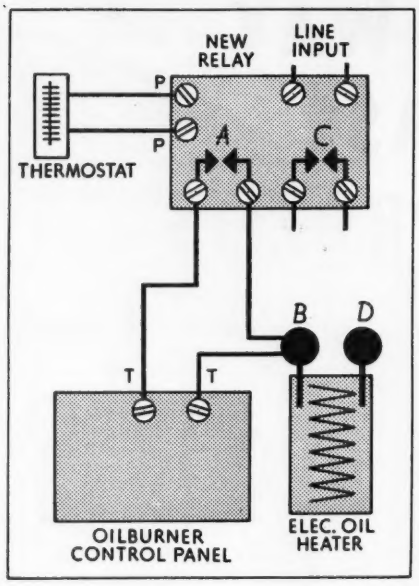
BOWSER, INC., 1330 CREIGHTON AVE., FORT WAYNE 2, INDIANA

MAKERS OF TIME-PROVED XACTO METERS

Relay saves Current

This trouble with automatic burners using No. 6 oil seems widespread in Brooklyn, where anything can happen and usually does. Landlords who are tight-fisted or hard-pressed because of low rents not being peculiar to Brooklyn, however, investigations bring out that the same trouble is being experienced elsewhere, also.

The trouble is that soon after a horizontal rotary cup burner is installed to heat an apartment house, the owner complains about the big electric bills that result from using the burner. He learns the automatic electric fueloil heater, standard on such burners using No. 6 oil, is using plenty of electric current remaining hot while the burner is idle. To save electricity, he opens the switch that provides current for this electric oil heater. Often this does not keep the burner from starting as it should, for the burner installer did not wire up the switch that's supposed to prevent the burners from starting when the electric oil heater on it is not warm.



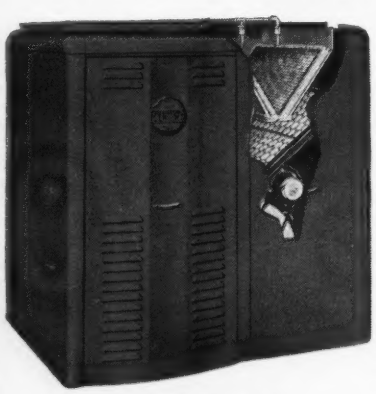
If, however, turning off the automatic electric fueloil heater does keep the burner idle, the owner demands that a serviceman arrange things otherwise. The owner wants the electric fueloil heater switch turned off, and he wants the burner to start. Servicemen try to oblige new owners of burners, then get into trouble because the burners don't start properly with cold No. 6 oil in the reservoirs of their electric fueloil heaters.

Facing such trouble, you can accomplish two things by installing an additional relay (labelled "New Relay" in the drawing): First, when idle the burner will use no electric current for keeping hot its electric fueloil heater. Second, when it should start, the burner will start only after the fueloil in the reservoir of its electric fueloil heater has become hot enough for a good start.

To the pilot-circuit terminals of the new relay, labelled "P" in the drawing, you wire the controls that normally start and stop the oilburner. These controls usually include a room thermostat or a large-building heat control system, and a hot water temperature control on the boiler that keeps the boiler hot year-round in connection with providing hot water on tap in the building.

Close the pilot circuit of the new relay because the burner should start, and you cause two sets of contacts to close in the new relay, labelled "A" and "C" in the drawing.

CENTURY'S *complete* gas and oil line
brings 'em in -- sells 'em -- keeps 'em sold!



People want to choose from a complete line they *know* and *trust* — CENTURY. Choose the 40-model gas and oil line that *closes more* sales, *makes more* sales, *creates more satisfied* customers—CENTURY.

TWO HIGHLIGHTS FROM CENTURY'S COMPLETE NEW LINE

The exclusive, Century Air Washer-Humidifier for automatic, exact, "living-room control" of humidity. Fits most manufacturers' basement models. Available on new Century Lo-boy units. (6 models gas — 8 models oil.)

New Century Counterflow permits installation flush at sides and rear, giving *zero* clearance! May be used even on combustible floors. Approved by A. G. A. and Underwriters' Laboratories Inc. It's another Century first! (4 models gas—4 models oil.)

APPROVED FOR ZERO CLEARANCE

CENTURY ENGINEERING CORPORATION, Cedar Rapids, Iowa

Century

• • • MANUFACTURERS OF FINE AUTOMATIC HEATING FOR 27 YEARS

CLIP COUPON FOR DETAILS OF COMPLETE LINE.

CENTURY ENGINEERING CORP. 416 Third St. Cedar Rapids, Iowa

Please send me further details on: (check below)

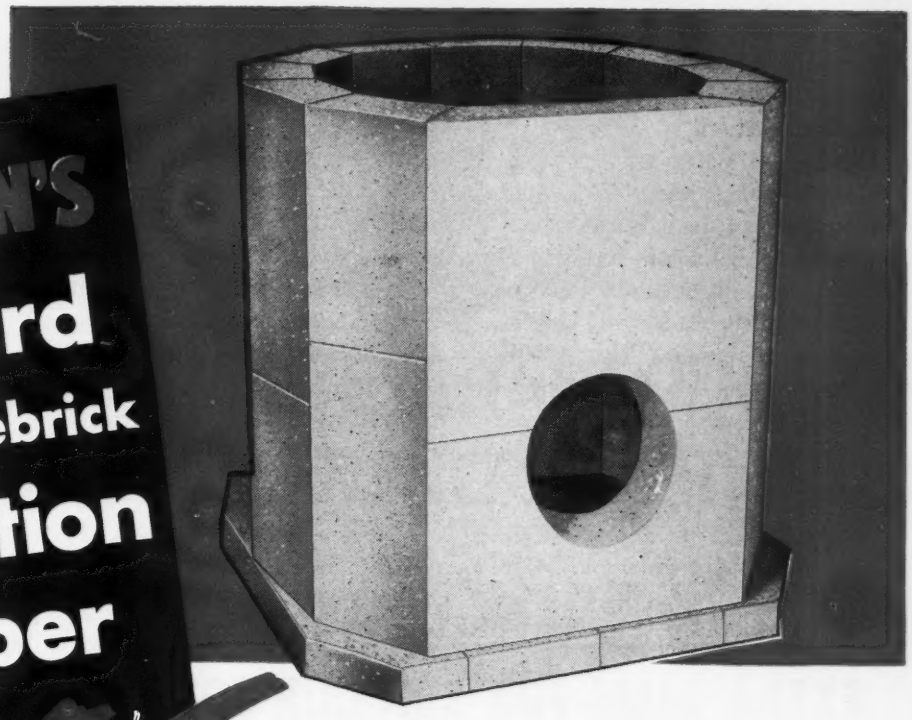
☐ Air Washer-Humidifier
☐ Gas Hi-boys
☐ Gas Lo-boys
☐ Gas Counterflow
☐ Gas Conversion Burners
☐ Hot Water Boilers
☐ Oil Hi-boys
☐ Oil Lo-boys
☐ Oil Counterflow
☐ Oil Conversion Burners

Name_____

Address_____

City_____ State_____

A.P.GREEN'S Standard Insulating Firebrick Combustion Chamber



Each piece of the chamber is packaged in an individual cell to insure safe, unbroken arrival.

There's An A. P. Green Combustion Chamber to Meet Every Oil Burner Requirement

Streamlined Combustion Chamber:
Rectangular heavy firebrick chamber. Comes in all sizes.

Perfecto Combustion Chamber:
Economical. A heavy firebrick chamber of circular design. Also available in all sizes.

A. P. Green REFRACTORY PRODUCTS
SERVE THE WORLD'S INDUSTRIES

Saves Installation Time—Insures Customer Satisfaction On Low Gallonage, Short On-Off Firing Cycle Burners

The new A. P. Green IFB* Combustion Chamber has been designed for ease of installation, exceptionally fast heating and complete combustion. It comes to you in a special cardboard container consisting of two inner cartons containing *all* the component parts, including a 5-lb. can of high temperature Mortar. Everything you need for a customer-satisfying installation is included. The front tile is in 2 pieces with the burner opening already cut. You don't have to perform this delicate, time-consuming operation on the job.

This A. P. Green IFB* Combustion Chamber has been specially designed to meet the exacting requirements of small gallon-per-hour ranges where there is a short on-off firing cycle. It is available in four standard sizes — 1.00, 1.35, 1.50 and 2.00 gallon-per-hour capacities.

An A. P. Green distributor located near you will give prompt delivery and personal attention. You'll find him listed in the yellow pages of your telephone directory, or write direct for more information.

**Insulating Firebrick*

A. P. GREEN FIRE BRICK COMPANY
MEXICO, MISSOURI, U. S. A.
A. P. GREEN FIRE BRICK CO., LTD. IN CANADA
DISTRIBUTORS IN THE PRINCIPAL CITIES OF THE WORLD

Suppose the burner should start because the pilot circuit of the new relay is completed and its two sets of contacts snap closed.

Closing the set of contacts wired "A" (low-voltage, wired to the thermostat circuit of the oilburner panel) in effect tells the oilburner to start—but only after control "B" on the electric oil heater reaches, say, 140°F. and closes its circuit. That 140°F. can be higher or lower to suit you.

Closing the set of contacts labelled "C" forwards current to the electric oil heater on the burner, which the new arrangement keeps turned off except when the oilburner should be running. You wire things so that in effect contacts "C" are in series with control "D" on the electric oil heater. Control "D" must be set 10°F. or so higher than control "B."

The outcome is that when you set up the thermostat in the drawing and close its switch, first the new relay snaps in and gives current to the electric oil heater. Next, when the electric oil heater becomes hot enough for a good start of the oilburner, control "B" starts the burner. Control "D" serves its usual function of preventing overheating of the electric oil heater by turning the heater on and off. After the oilburner starts to receive hot oil from an under-the-waterline fueloil heater — as it should within a few minutes—control "D" will keep the electric oil heater on the burner turned off.

A dozen or more different wiring arrangements can be used to gain the objectives of (1) keeping the electric fueloil heater on the burner turned off when the burner is idle, and (2) turning on this electric fueloil heater just before the burner should start, and letting the burner motor start only after this electric fueloil heater is hot.

We have suggested to a few dealers, who sell big horizontal rotary cup installations in Brooklyn and elsewhere, that when completing final arrangements with apartment house owners they offer this special relay arrangement as an extra—priced at $35 installed or any other suitable amount—to insure hot fueloil for the atomizing cups of burners trying to start after prolonged "off" periods, and to ward off complaints from owners about oversize electric bills.

Bulb nudges Thermostat

This factory owner went thoroughly into the working of modern room thermostats and learned why the modern thermostat in his home turned his oilburner on but eight minutes at a time and provided smooth heat, whereas the 10-ampere line-voltage thermostats in his factory gave 40-minute "on" periods and provided bumpy heat. The room thermostat in his home was low-voltage and had a heater to give heat anticipation effect.

In the factory, more than a dozen of the line-voltage thermostats start and stop hot water circulators of a zoned-heat system. The factory owner's inspiration was to install an electric light bulb under each thermostat as the drawing shows. Receiving current from the load side of the thermostat, and grounded at the other side by a wire that runs to grounded elec-

THE DIFFERENCE MAKES
EXTRA SALES FOR SINCLAIR JOBBERS

SINCLAIR ANTI-RUST FUEL OIL
SO DIFFERENT IT'S PATENTED

Contains the amazing rust inhibitor RD-119...
which
Protects against corrosion and rust-clogged
filters and burner nozzles...
Reduces service calls...Builds good will and SALES.

SINCLAIR
FUEL OIL WITH RD-119®

ANTI-RUST Super Flame ®

White MAINTENANCE MANAGEMENT PROGRAM

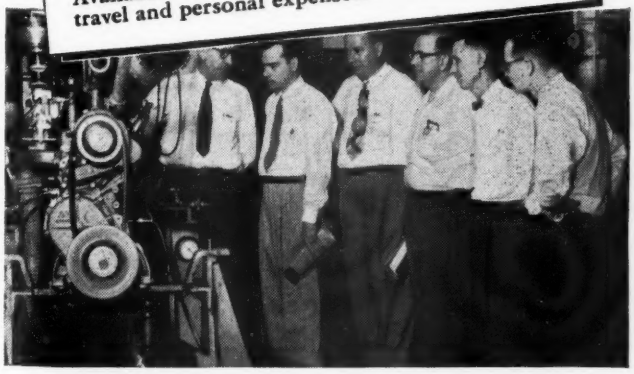
ANOTHER FIRST FOR WHITE IN THE SCIENCE OF EFFICIENT TRUCK MAINTENANCE SUPERVISION

THE WHITE MOTOR COMPANY, realizing the tremendous importance of efficient and economical truck maintenance under today's operating conditions, has developed the White Maintenance Management Program as a further service to fleet operators who do their own repair work.

The White plan of Maintenance Management is based on a constant belief that the greatest improvement in truck maintenance will come from better supervision of the maintenance operations and more knowledge of the best and most modern methods for maintaining equipment.

White's plan of Maintenance Management provides:

1 **PRACTICAL DEMONSTRATION COURSES FOR MAINTENANCE SUPERVISORS AT THE WHITE FACTORY** showing latest maintenance methods and supervisory techniques. Available without cost, operator's cost being only travel and personal expenses.



2 **IN-SHOP CONSULTING SERVICES OF WHITE MAINTENANCE ENGINEERS** who will work directly with operator's personnel at fleet shops or headquarters in the development of more effective maintenance methods and improved management techniques.

In making this plan available to truck operators, White has one interest in mind—improving the quality of truck maintenance throughout the industry and thereby reducing a very important part of truck operating costs today—maintenance cost.

For complete information about the White Maintenance Management program, consult your White Representative.

THE WHITE MOTOR COMPANY
Cleveland 1, Ohio

AND

White

FOR MORE THAN 50 YEARS THE GREATEST NAME IN TRUCKS

For Truck Operators Who Have No Shop Facilities, White Has Available GUARANTEED MAINTENANCE

White originated Guaranteed Maintenance as a service to truck operators who do not have a sufficient concentration of equipment in one location to warrant having shop facilities of their own. This plan provides complete maintenance service at fixed cost to operators.

Maintenance that is guaranteed, of necessity, does cost more. To make a guarantee it is necessary to include provisions in the estimated cost to protect the guarantor against operating conditions beyond his control.

Where there is a fleet of sufficient size to warrant an operator having his own shop, cost of maintenance, when performed by the operator's own shop, will be less than if furnished and guaranteed by an outside concern—assuming, of course, that proper maintenance procedures are used and good supervision provided by the operator.

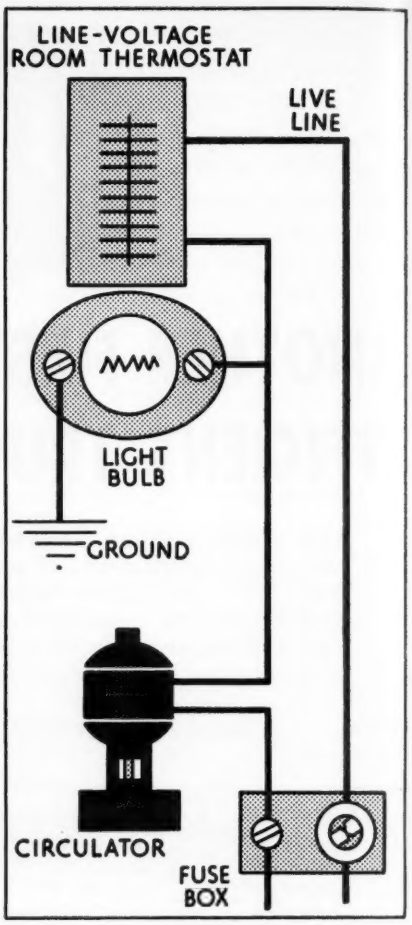
And White's plan is the most comprehensive and economical in the industry. Facts about White's Guaranteed Maintenance program are available from your White Representative.

tric conduit or BX cable, the socket under the thermostat (see drawing) will turn on the light bulb whenever the circulator is running.

The factory owner is disregarding what he calls a mild violation, involved in grounding one side of the light socket in this fashion, because only a small flow of current is involved. He aims to try out light bulbs from 7½-watt size to about 25-watt size, in an effort to wind up with the proper amount of heat anticipation effect. Knowing his arrangement is crude and amateurish, he is prepared to set the thermostats higher for cold outside weather than for mild weather.

Considerable droop effect may come of using the arrangement. If in coldest weather a circulator must run a total of 16 hours a day, the light bulb under it will be on 16 hours a day. The bulb may heat the thermostat considerably with the result that a thermostat setting of 72° may result in a room temperature of, say, 65°.

If he finds out his arrangement does not work well, says the factory owner, he will replace all the line-voltage room thermostats with modern low-voltage heater-type thermostats, and he'll install the low-voltage relays needed to permit these thermostats to start and stop the circulator motors. Meanwhile, he's having lots of fun at little expense, and is gaining appreciation for modern thermostats.



Cleaning boiler Tubes

The owner of a 200-hp low-pressure boiler in an apartment house had it fitted with a permanently-installed stack thermometer—unquestionably a worthwhile accessory for any big boiler.

Usually this thermometer reads 425°F. with the boiler tubes clean, thanks to the boiler's being of good design and oversize for its load. When the reading climbs to 460°F. or 475°F., the superintendent used chemicals to clean the boiler's flue passages.

First, he increases the firing rate of the burner sufficiently to raise the reading of the stack thermometer to 600°F. He does this simply by unhooking a lever that is moved by the

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low-fire-start control motor, and shifting the position of a rod that provides a higher oil rate and more primary air and secondary air. The serviceman who tends the installation arranged this for the superintendent.

Second, he puts his soot-burning chemical to work. Because the flues are especially hot, the chemical does an especially good job of causing most of the soot in the flues to burn.

With the burner again adjusted to give a flame of normal size, the stack thermometer reports on the thoroughness with which the flues were cleaned. Thoroughly clean flues cause the stack thermometer to read 425°F.

domestic heating plants, this permits

Steam Temperatures

True, a little knowledge can be a dangerous thing, but that does not apply to your adding to your knowledge a few points about the properties of saturated steam. You can't go wrong memorizing the temperature of saturated steam at a few different vacuums and pressures. In the field of you to tell the owner of a steam plant the temperature-wise significance of maintaining five pounds' pressure on a boiler instead of two or ten pounds.

In the commercial-industrial field, it may give you new appreciation of steam at pressures above 25 lbs.—and it may permit you to tell the owner or chief engineer of a big boiler plant a few things he's failed to learn about the steam that comes from his boilers. Just memorize a few of these lines, as many as you please:

Pressure or Vacuum	*Steam Temperature*
25" vacuum	134°F.
20" vacuum	162°F.
15" vacuum	179°F.
10" vacuum	192°F.
5" vacuum	203°F.
zero	212°F.
2 lbs. pres.	119°F.
5 lbs. pres.	227°F.
10 lbs. pres.	239°F.
25 lbs. pres.	267°F.
50 lbs. pres.	298°F.
100 lbs. pres.	338°F.

These figures are on a sea-level basis. The 212°F. at zero pounds' pressure reveals this—at sea level, water in an open vessel boils at 212°F. The pressure figures are gage basis, obviously, not absolute basis. No superheating is involved, for this is saturated steam.

These figures tell you why high-pressure steam-type fueloil heaters are far more effective than fueloil heaters that use steam at two to five pounds' pressure, from low-pressure boilers. They also tell you why a burn given by high-pressure steam can be much worse than a burn given by low-pressure steam. They tell you why the temperature of the water in the boiler of a modern closed hot-water heating system can be much higher than 212°F. without the water's boiling in the boiler, and with the boiler pressure between, say, 15 and 30 pounds.

Don't split hairs in studying this table, for its figures are on the basis of a practical oilburner installer and serviceman, not the exacting basis of a physicist. Different tables and different authorities give slightly different temperatures for the pressures listed here. If you want to be ultra-precise, obtain a complete saturated steam table you think you can trust, then rely on it.

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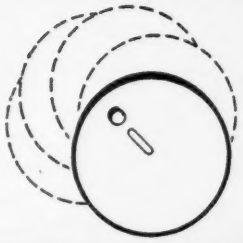
*Fuel waste without any draft control runs up to 20%; with an inaccurate control 5% fuel wastes are common.

BALANCING FIELD GATES: Steel today varies up to 10% over or under gauge measurements—sufficient to cause errors in draft control performance as great as draft changes of 5/100" or more. To correct these steel tolerances Field gates are counterbalanced using a Duo-Static Balancer.



Eccentric adjustment for balancing gate in the vertical plane, second of two adjustments.

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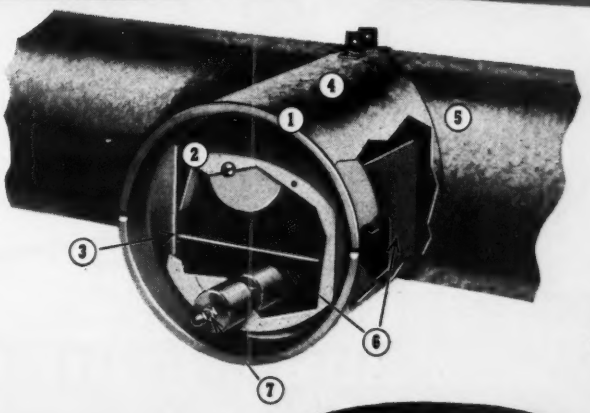

field

DRAFT CONTROLS

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Transformer Trick

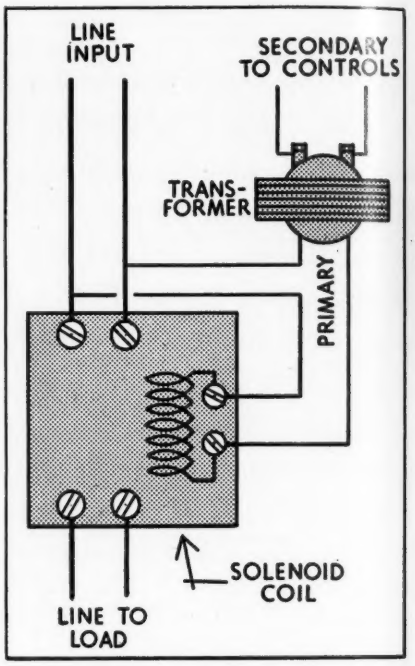
In the accompanying diagram, "Line Input" provides current for a relay, and "Line to Load" is wired to the motor of a circulator in a typical, modern hot water heating system. The odd wiring in the diagram has good reason behind it.

Responding to a no-heat call on a below-zero Saturday night, a serviceman found a relay beyond repair—the relay used to permit a low-voltage room thermostat and other low-voltage controls to start and stop the circulator of the hot-water heating system.

"I'm off to my shop," he shouted to the owner. "I'll be back with a new relay in 20 minutes."

The radiators were hot already as he left for the relay, for he had wired in two jumpers to run the circulator continuously, without controls. This account was the most important his boss had.

A quick but thorough search of the shop proved there was no suitable relay there—no relay that had a low-voltage circuit to start and stop a line-voltage motor. But there was in the shop a 110-volt relay equipped with a 110-volt solenoid coil; this is the relay shown in the drawing. Also, there



was a 50-watt low-voltage transformer, 110-volt to 25-volt, kept on hand as a spare for similar transformers in big zone-control jobs.

"Unless you close the secondary circuit," the serviceman reasoned, "the primary coil draws no current when it's connected across the line. Short the secondary of the transformer, and the primary draws maximum current, which may be enough to do the trick."

He tried it out at the shop within five minutes, and the idea worked. With the solenoid coil of the relay connected in series with the primary of the transformer and both connected across the line as the drawing shows, shorting the secondary of the transformer made the relay armature snap in and close the relay contacts. The resultant "Click" was lively enough to suit the serviceman; it permitted him to conclude, he says, that the relay could handle a light load. Removing the short from the secondary of the transformer caused the relay contacts to snap open.

The trick worked well on the job as well as in the shop, for it was used for more than a week—until a new, suitable relay was obtained and the serviceman got around to installing it.

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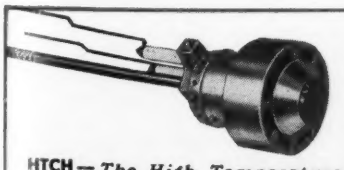

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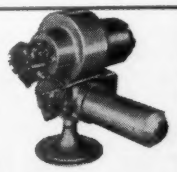

Model 400 S
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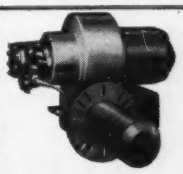

Model 400 AF
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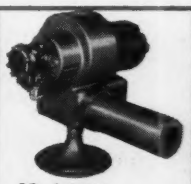
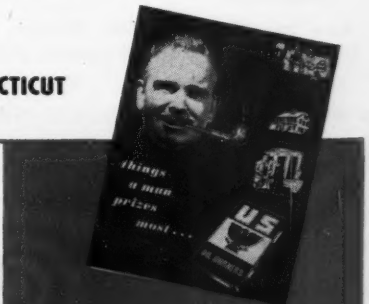
1.35 to 2.00 G.P.H.



Model 400
0.65 to 4.00 G.P.H.



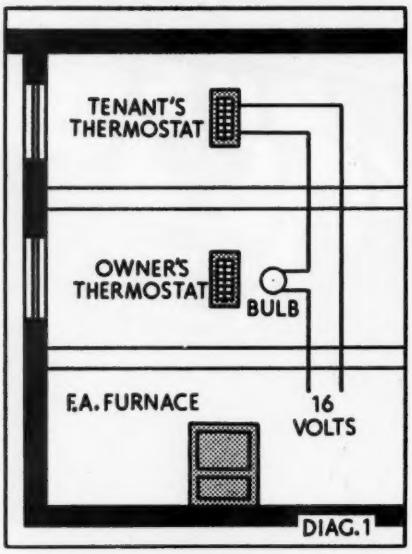
Send for this fact-filled folder "Things A Man Prizes Most".

Two Thermostats

The owner's thermostat on the first floor controls the forced-air furnace in Diag. 1. The tenant's thermostat on the second floor turns on the 16-volt bulb next to the owner's thermostat — when the temperature in the tenant's apartment drops below 70°F. —thus informs the owner when the tenant is poorly heated.

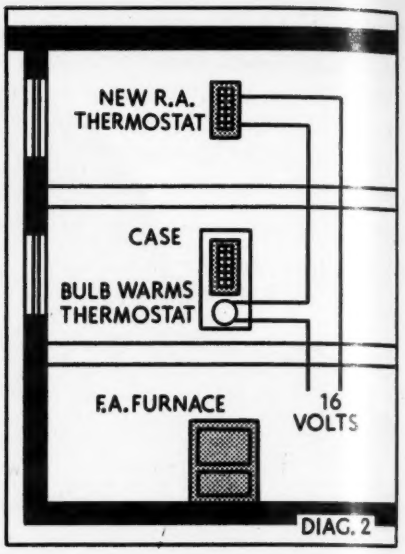
Explaining this to a serviceman who had called about other matters, the owner proudly explained that his no-cost remote temperature indicating rig used 16-volt current from his already-installed doorbell transformer, a 16-volt bulb from his son's electric train set, and an old room thermostat with its parts bolted and soldered so that the tenant could not change its 70°F. setting.

As the serviceman told the owner it was good that heat from the bulb in Diag. 1 could not reach the thermostat, he got the idea that a bulb lighting up only when the tenant was well heated could be used to help regulate the heat in the two-family house.



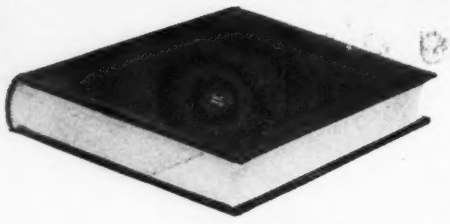
Diag. 2 is the result of the serviceman's suggestion. Here, a new reverse-acting and snap-acting thermostat in the tenant's apartment turns on the bulb when the tenant's apartment becomes warmer than 72°F.

Normally the bulb, now located in a case under the owner's thermostat, should be lighted because the tenant's apartment is warner than 72°, therefore the tenant's thermostat is "on."



Steady heat from the bulb gives the owner's thermostat about three degrees of "false heat"—thus when set regularly at 75°, the owner's thermostat (which starts and stops the furnace) keeps his apartment at 72°.

If the light bulb under the owner's thermostat goes out because the tenant's thermostat becomes cooler than 72°F., the owner's thermostat



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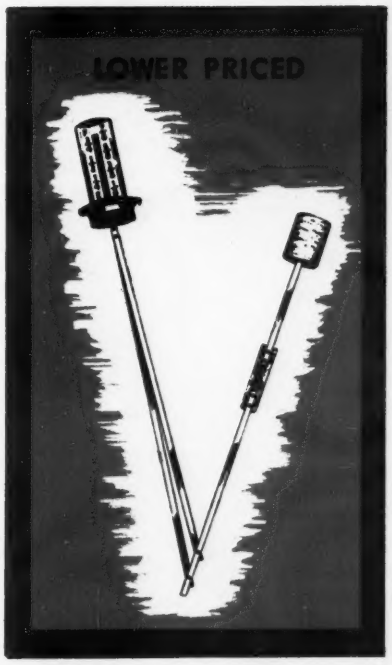

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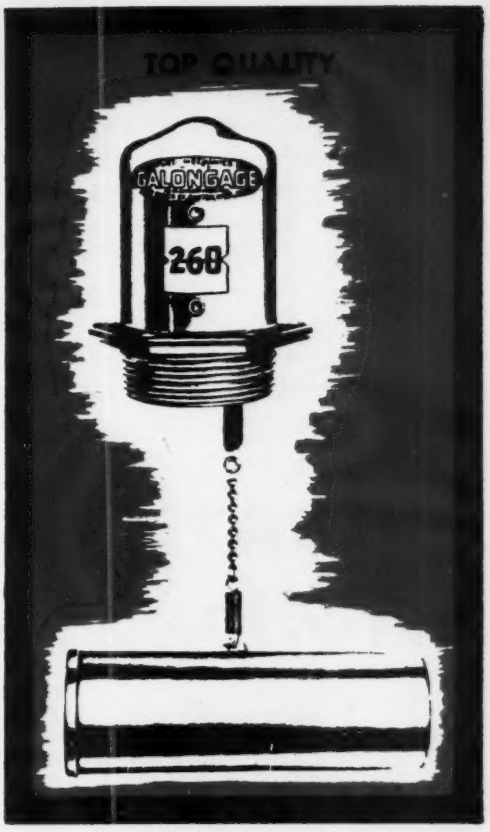

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cools off a bit. The effect being about the same as setting the owner's thermostat up about three degrees, the furnace soon is started as the result of the tenant's being too cool.

The beauty of a set-up of this kind is that it can be arranged so that the tenant's thermostat has as much effect on the owner's thermostat—and on the heat in the house as a whole—as the landlord desires. The bulb can be placed closer to or farther from the owner's thermostat. Ventilation of the thermostat case can be decreased or increased. An adjustable resistance can be wired in series with the 16-volt light bulb to reduce its affect by any desired amount. For increased light-bulb affect, two or three bulbs can be installed in the case.

No matter how these variables are changed, however, the equipment that controls the heat still is in the owner's apartment where he can alter its action instantly at any time. He always knows if his tenant's thermostat is above 72° or below 72° (of course, the slight differential of the tenant's thermostat must be taken into consideration). He always can change the heat in the building by setting his own thermostat higher or lower. Thus the idea in Diag. 2 holds much appeal for the owner of a two-family house who wants full control over the heat in his house, yet wants to know what's going on temperature-wise in his tenant's apartment. This idea permits two thermostats to regulate the heat from one boiler or furnace in a highly practical fashion!

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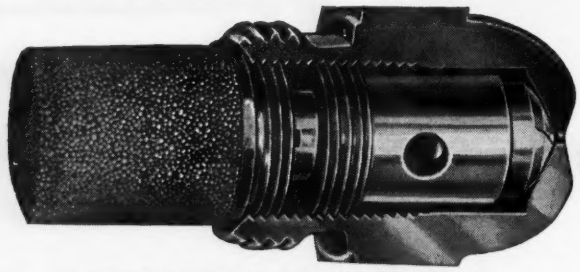

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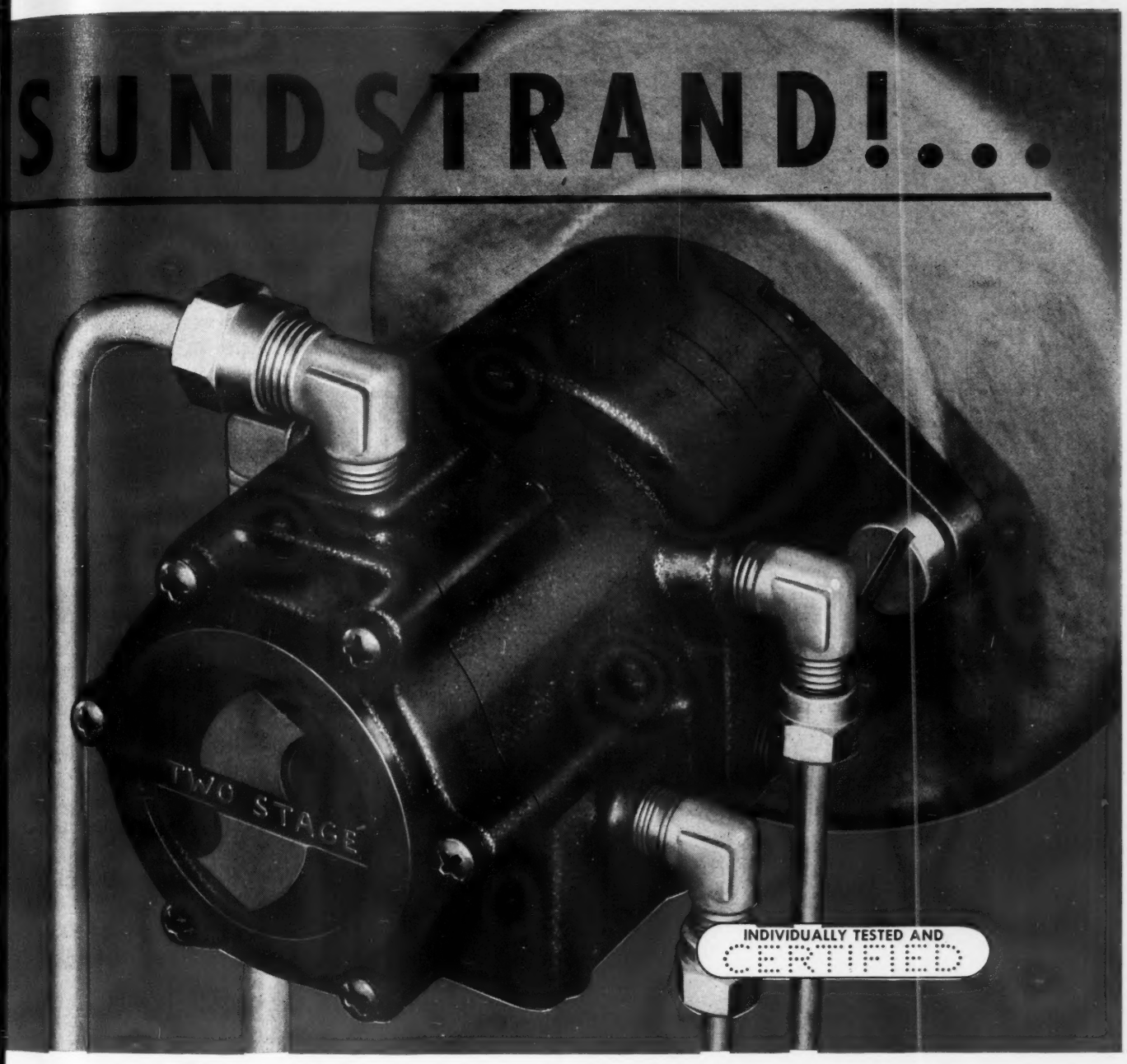
In the basement of a certain three-family house are three 40-gallon hot-water storage tanks. Each tank is heated by its own tank-type indirect water heater. The three indirect water heaters are neatly installed side-by-side on the steam boiler that heats the building.

The three tanks and three water heaters are the owner's answer to the problem of a tenant's using excessive hot water with the result that no one in the house — including the owner who occupies one of the apartments—can draw hot water. With three tanks, one for each apartment, any apartment using excessive hot water winds up with cold water for a while. The occupants of the other two apartments do not suffer because the occupants of one apartment are wasting hot water or using excessive amounts.

❖

R. D. Rogers has been appointed a vice-president, Tide Water Associated Oil Co., New York and a vice-chairman of the Operating Committee, Eastern Division. The Operating Committee is a steering group responsible for the activities within each of the three Tide Water geographical subdivisions, one of which is the Eastern Division. Rogers, recently appointed manager of the Transportation and Supply Department, Eastern Division, has been in the service of Tide Water Associated and its predecessor companies for more than thirty years. He has had wide experience in the Refining and Sales Departments of the Eastern Division.

SUNDSTRAND!...



Precise, positive synchronization of air and oil flow!

With this sensational new fuel unit, accurately measured quantities of air and atomized oil meet at the nozzle for smooth, efficient combustion all through the heating cycle. Only with air and oil supply systems created by designers with a wealth of hydraulic "know-how" is such precise synchronization possible. Look at the results—one nozzle handles the entire .4 to 1.5 gallons per hour firing range—no small orifices are needed! No smoking at starts or stops ... no carbon formation ... no pulsation ... just remarkably efficient operation over years of satisfying heating service.

Sundstrand is mighty proud of this new fuel unit. You will be, too, when you realize all the benefits which will accrue to you. Simple to install, with all connections readily accessible. Simple to service—strainer is quickly available for cleaning—metering cam is quick to change if necessary. Trouble-free for years and years, due to proved principles of Sundstrand design and Sundstrand's precision production. Of course, each unit is individually tested and certified. You can't afford not to be "in the know" about this sensational development—get complete data in bulletin 1107.

SUNDSTRAND

SUNDSTRAND FUEL UNITS

SUNDSTRAND MACHINE TOOL CO.

HYDRAULIC DIVISION, ROCKFORD, ILL.

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.

Service managers Group meets in Philadelphia

THE SEMI-ANNUAL MEETING of the National Association of Oilheating Service Managers took place on September 15 at the Hotel Sylvania, Philadelphia. The all-day meeting was attended by representatives from all five of the affiliated chapters. Hugh McKee, Massachusetts Wharf Coal Co., Boston, and president of the Association was chairman of the meeting; Joseph Matachinskas, Brooklyn-Cornell Utilities, Brooklyn, N. Y., was secretary.

William Wildes, Buckley & Scott Utilities Co., Watertown, Mass., chairman of the Constitution and By-laws Committee, presented these documents, which, after discussion, were adopted.

Reports from various committee chairmen were received, including one on membership. It was revealed that in addition to the five Eastern Seaboard chapters a number of inquiries and applications for membership have been received from Midwestern cities, indicating expansion of the Association to that area. Early in October a sixth chapter was organized in Morris County, N. J., with others approaching the organizational stage.

A round table discussion that occupied a large portion of the meeting heard reports from each area on labor conditions, particularly as they apply to wage rates and fringe benefits for employees. Out of the discussion came a decision to set up a standard form for tabulating this information for each company in an area. This information then would be made available to member companies.

To be handled in the same fashion is a comparison of service contracts that already is under way. This would include an analysis of prices, coverage and special features.

Ray Horan, honorary president, was speaker at a noon luncheon. The annual meeting of the group will be held each March, the first one to take place in Boston.

The only personnel change occurred when Ed Baerenklau, Baerenklau & Co., Brooklyn, found it necessary for business and personal reasons to resign as chairman of the Publicity Committee. He was succeeded by Charles Burkhardt, Paragon Oil Co., Brooklyn.

NYOHA calling Meeting to organize against Gas

OCTOBER 14 has been selected as the date for a meeting in New York City to acquaint oilheating dealers with the status of gas competition as it exists today and how they can organize to combat it. New York Oil Heating Association is sponsoring the meeting, to which all oilheating dealers in the five Boroughs of New York City have been invited, plus companies in Nassau County. The exact location of the meeting had not been determined at

1. **BRASS BUS BARS** — Assures positive, safe ignition. No springs or wires.
2. **TRANSFORMER** — More turns of wire and more coil laminations give a longer life even under low voltage conditions. Aluminum foil shield eliminates radio and television static.
3. **PATENTED NOZZLE SHIELD** — Eliminates carbon deposits which reduce efficiency as much as 20% in one season!
4. **COMPLETE LINE** — Nu-Way builds a complete line of oil burners for domestic, commercial installations.
5. **EXCEEDS UNDERWRITERS' REQUIREMENTS**
6. **32 YEARS EXCLUSIVE MANUFACTURE**

AND THAT ONE IS Nu-Way

THERE'S A PROFITABLE DIFFERENCE
in Nu-Way! Write today for full details on the Nu-Way line.

THE NU-WAY CORPORATION
ROCK ISLAND, ILLINOIS

Sold through Jobbers and Distributors. Also Special Applications for Furnace and Boiler Manufacturers.

"Automatic Oil Heat Exclusively Since 1921"

NU-WAY OIL HEATING EQUIPMENT
LOOK FOR THE FLAME

Everyone Can't Sell...

BUT ALMOST ANYONE CAN LEARN TO SELL...

SPECIAL PRICE

THE SELLING MAN (WE PAY POSTAGE) **$4.00** A COPY

For the benefit of those breaking into selling and for improvement of active salesmen, W. A. Matheson, a director of Eureka Williams Corp., wrote an exciting book on selling techniques that has helped thousands get ahead faster. He calls it THE SELLING MAN. He believes that almost anyone can sell if he'll take the trouble to learn. The techniques he suggests are practical because he has tested them himself. The $4 investment is a tiny price for so much helpful and profitable information to attain greater success.

PLEASE MAIL REMITTANCE WITH ORDER!
PLEASE NO C.O.D. ORDERS.

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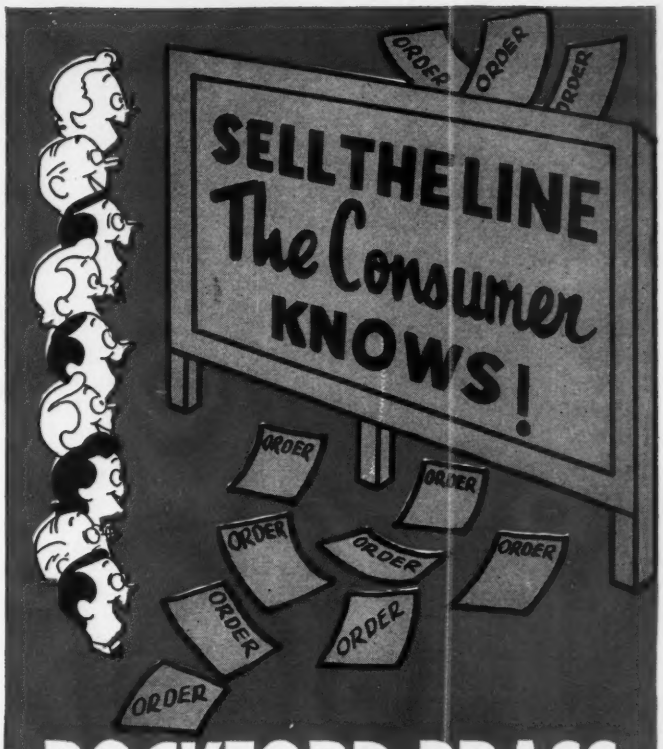

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National Advertising

IS CREATING

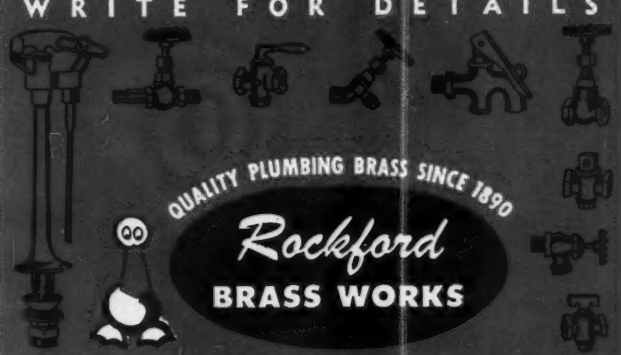
THOUSANDS OF ORDERS

FOR

WHOLESALERS

• Millions of readers of the leading National Magazines are being referred to their licensed plumber in the huge 1953 Rockford Brass Works advertising campaign. Consistent monthly messages to build your sales. Tie in with this program for new customers and greater profitable volume.

WRITE FOR DETAILS



QUALITY PLUMBING BRASS SINCE 1890

Rockford
BRASS WORKS

ROCKFORD • ILLINOIS

press time, but all dealers in the area are to be notified. Or, the information can be obtained from the Association's office: telephone, Longacre 5-1268.

Phil Schepp, secretary of NYOHA, explains the purpose of the meeting as aiming at acquainting all elements of the industry with information on gas competition. For this reason, oilheating dealers are urged to have their sales and service personnel accompany them to the meeting.

A program of speakers has been arranged to cover such topics as "Sales Methods," "Know your Competition" and the "Future of Oilheating." Speakers include I. M. Nelson of Boston Machine Works Co. and Kirk B. Shivell of Shivell-Hall Advertising Agency.

A. W. Scott re-elected to second term as NPA President

NATIONAL PETROLEUM ASSOCIATION re-elected A. W. Scott, president, Wolf's Head Oil Refining Co., Oil City, Pa., to a second term as president at the group's 51st annual meeting at the Hotel Traymore, Atlantic City, N. J.

Other officers re-elected were: Fred G. Bannerot, Jr., Elk Refining Co., Charleston, W. Va., first vice-president; Paul R. Beck, Pennsylvania Refining Co., Butler, Pa., second vice-president; Fayette B. Dow, of Washington, D. C., general counsel; G. B. Hunter, Quaker State Oil Refining Corp., Oil City, Pa., treasurer and Margaret A. Miller, of Washington, D. C., assistant treasurer.

The dates for the mid-year meeting in Cleveland next year were set at April 14-15-16, 1954.

Silent-Flame

Business in "Millions" Profit in "Pennies"

18 Different Models — From ¾ G.P.H. to 30 G.P.H.

(Custom-built for any Furnace or Boiler—Flanged or Pedestal at no additional cost)

with the new "DUAL" TELESCOPIC TURBULATION

As standard equipment. No extra charge. (NOT a combustion head.)

RESULT:

1. Clean fire
2. Ball Flame
3. High CO_2
4. Economical Operation
5. Trouble-Free Installation

U.S. Patents No. 2,570,996 2,497,480 Canadian Patent 469,767 and Patents Pending

"From the Raw Ingot to the Finished Product — Under One Roof"

SILENT-FLAME MFG. CO., INC., New York 72, New York

Oil Heat Old Timers have fishing Excursion for Members

ON AUGUST 27 some 25 members of Oil Heat Old Timers, Inc., Long Island City, N. Y., embarked from Canarsie for an all-day fishing excursion. The trip was unique in many respects. First, it enriched the coffers of the club by a couple of bucks, fish actually were caught—"Fluke as big as door-mats," some of the li—, oops, fishermen said—and last, but not least, Bill Brown, noted for his constructive but sometimes critical comment after affairs like this, reported it was a real fine day and that he had a good time.

Fall meetings for OHOT began on October 8 and regular meetings are scheduled for the second Thursday of every month at the Brew House, 207 East 54th St., New York City.

Natural gas Competition discussed at ESPA Meeting

NATURAL GAS COMPETITION, percentage mark-up, taxes and credits and collections were on the agenda for the Empire State Petroleum Association's Fall Meeting and Golf Tournament October 4, 5 and 6 at the Mark Twain Hotel in Elmira, New York. Group discussion sessions were scheduled for the mornings of October 5 and 6 with the golf tournament played in the afternoons.

George D. McDaniel, Socony-Vacuum Oil Company, spoke at the ban-

No smoky starts...

time delayed

for proper fuel-air ratio

General Controls

K-28

Magnetic

Stop Valves

General Controls' K-28 magnetic stop valve allows the oil-burner motor to reach full operating speed before admitting fuel to the nozzle. With air and fuel pressure at full volume the valve opens, reducing smoky starts and eliminating carbon deposit on electrodes or nozzle. Positive plunger action closes the K-28 valve instantly when motor circuit is broken, thus preventing oil dribble. Operating in any position, compact, and economical, General Controls' K-28 Time Delay Oil Valve is the ideal automatic control for domestic oil-burner applications. Keep one of these colorful display cartons on your counter for extra profit when servicing oil heating equipment this fall.

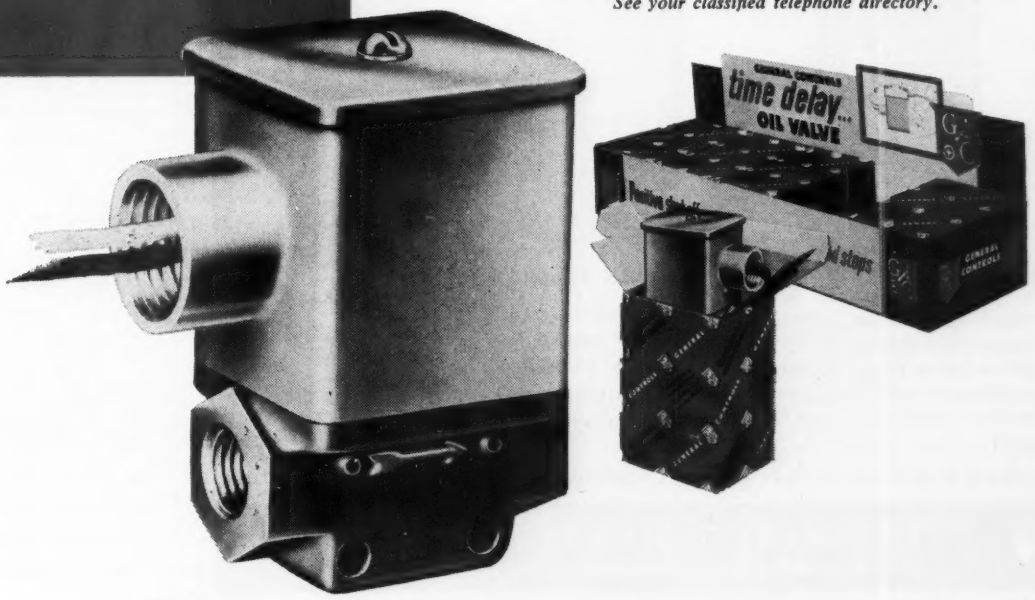
GENERAL CONTROLS

Glendale, California • Skokie, Illinois

Manufacturers of Automatic Pressure, Temperature, Level and Flow Controls for Heating, Home Appliances, Refrigeration, Industrial and Aircraft Applications.

FACTORY BRANCHES IN 34 PRINCIPAL CITIES

See your classified telephone directory.



quet Tuesday night, October 6, on "The Place of the Jobber-Distributor in Socony's Marketing Policy." As general manager, eastern region, McDaniel is in charge of distribution and sales of Socony-Vacuum products in the 15 Eastern states from Maine through South Carolina and the District of Columbia.

The first sessions on Monday, October 5, at 9:30 A.M. were on "Credits and Collections," moderated by Donald P. Love, Mid-Hudson Oil Company, Poughkeepsie, and "Percentage Mark-Up" moderated by Harvey W. Lewis, Lewis Coal & Oil Company, Port Washington. F. Raymond Kraemer, financial consultant of Mineola, New York, spoke at the "Percentage Mark-Up" session.

On Tuesday, October 6, the sessions were on "Natural Gas vs. Fuel Oil," moderated by Herbert M. Spade, E. Robison, Inc., Hartsdale, and on "Taxes" (Gas Tax, Weight-Distance, Registration Fees, Road Program), moderated by George L. Savory, Savory Oil Company, Binghamton. Robert Gray, editor, FUELOIL & OIL HEAT, spoke at the session on "Natural Gas vs. Fuel Oil."

After the group sessions each morning, the two groups met for a general discussion of the topics covered with Elbert J. Townsend, ESPA president, and Harry B. Hilts, secretary, presiding.

The ESPA Board of Directors met at the Mark Twain on Sunday night, October 4.

SERVICE-FREE PERFORMANCE

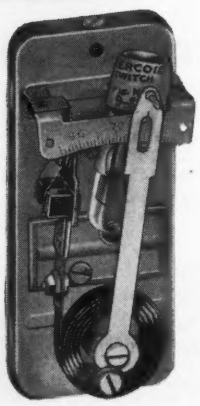
MERCOID SENSATHERM®

Exclusively Equipped with the Mercoid Magnetic Mercury Switch

Dust, dirt or corrosion cannot affect the electrical circuit of a Mercoid Sensatherm.

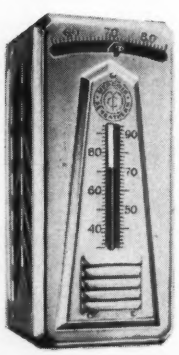
For over twenty years, the Mercoid magnet operated mercury switch has proven its dependability by providing millions of positive "makes" and "breaks" without deterioration.

This same type of switch is used throughout all industry where critical and faultless operation is dependent upon a positive and enduring contact.



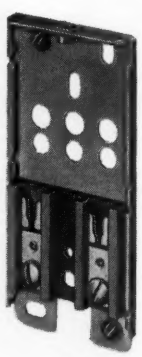
NO INTERNAL HEATERS

Internal heaters are not required in the Sensatherm. The Sensatherm maintains an even room temperature level within ½°F., plus or minus. There are no adjustments to make—no special settings—simply set it and forget it.



LIFETIME FINISH

The aluminum cover with its beautiful metallic finish will last a lifetime—no warping, peeling, cracking or discoloration.



SUBBASE

Metal subbase eliminates warping. Thermostat is quickly fastened to base by means of a single screw—simple two wire hookup.

THERE IS A MERCOID CONTROL AVAILABLE FOR EVERY PHASE OF OIL BURNER OPERATION

THE MERCOID CORPORATION
4201 BELMONT AVE., CHICAGO 41, ILLINOIS, U.S.A.

After the group sessions each morning, the two groups met for a general discussion of the topics covered with Elbert J. Townsend, ESPA president, and Harry B. Hilts, secretary, presiding.

The ESPA Board of Directors met at the Mark Twain on Sunday night, October 4.

I-B-R School Schedule lists five cities in four States

FURTHER DETAILS regarding locations of the I-B-R School of Modern Heating sponsored by The Institute of Boiler and Radiator Manufacturers, New York 17, have been announced.

Having completed its swing through the West Coast, the I-B-R School of Modern Heating invaded Canada in September and early October with schools in Toronto and Montreal.

Following the Canadian schools, the itinerary included Springfield, Mass. Cities in which schools are yet to be held include Temple, Pa.; Charleston, West Va.; Caton, Ohio; Scranton, Pa. and Providence, R. I.

Following are the dates and locations of these schools:

October 20-22, Temple, Pa.; *October, 27-29*, Charleston, West Va.; *November 4-6*, Canton, Ohio; *November 17-19*, Scranton, Pa. and *December 1-3*, Providence, R. I.

Tuition for the I-B-R School is $28.

Heating Wholesalers hold second national Convention

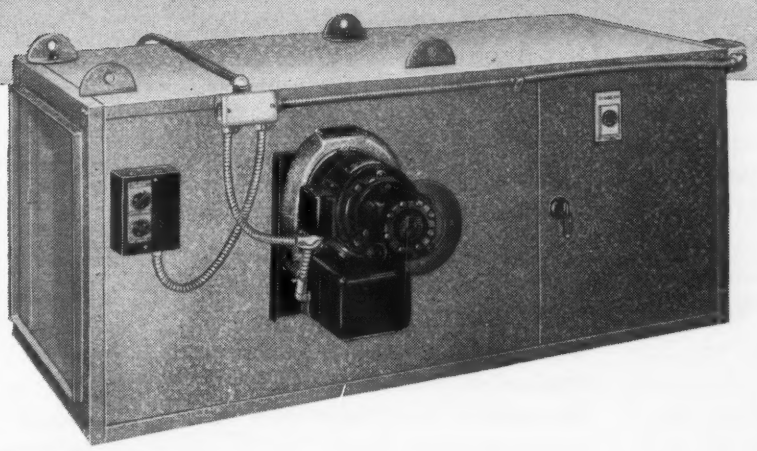
AMERICAN INSTITUTE of Wholesale Plumbing and Heating Supply Associations, Inc., held its second national convention at the Waldorf-Astoria Hotel, New York, September 20-23.

The American Institute is composed of five member associations. They are the Middle Atlantic Wholesalers Association, New York State Plumbing and Heating Wholesalers, Inc., Plumbing and Heating Wholesalers of New England, Inc. Southern Wholesalers Association and Wholesale Distributors Association.

Each of these member groups held

Now Ready a high efficiency, fully automatic

OIL FIRED HORIZONTAL WINTER AIR CONDITIONER by SUNBEAM AIR CONDITIONER DIVISION of AMERICAN-Standard



The OLANDO ...gives you a larger share of today's big residential market!

HERE'S a real space-saver for small and medium size homes. Designed especially for oil firing, this steel horizontal heating unit can be safely installed in the attic, closet, utility room, in crawl space under the floor, or other out-of-the-way locations. It also is ideal for zone heating in larger homes where more than one winter air conditioner can be used to advantage.

Extremely versatile, the Olando is adaptable to virtually unlimited applications . . . for perimeter or conventional duct system installations in both new construction and modernization jobs. It is also ideal for suspended applications in garages and service stations.

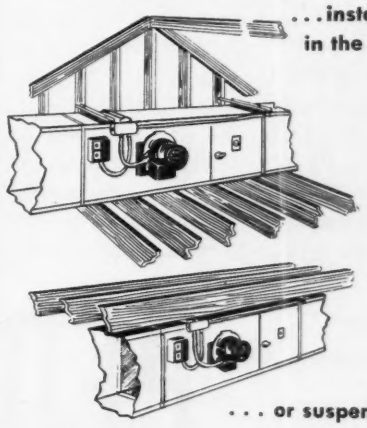
Available in three sizes—80,000, 100,000, and 112,000 Btu per hour at bonnet—this new horizontal unit is factory assembled and shipped with wiring harness for quick and easy installation. For more detailed information, including rating and dimensions, contact your wholesale distributor. **Sunbeam Air Conditioner Division,** American Radiator & Standard Sanitary Corporation, Bessemer Building, Pittsburgh 22, Pa.

QUALITY-BUILT PRECISION ENGINEERED

Inside of durable metal jacket is protected by corrosion resistant, reflective coating. Heavy steel heating element fired by famous Arcoflame Oil Burner assures better heating and longer life. Detroit Controls provide trouble-free automatic operation.

Factory Assembled

for quick, easy installation



. . . installed in the attic

. . . or suspended under the floor

AMERICAN-Standard
SUNBEAM AIR CONDITIONER DIVISION
ELYRIA, OHIO
Executive Offices: Bessemer Building, Pittsburgh 22, Pa.

Serving home and industry

AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

fueloil & oilheat

closed meetings for individual members as well as participating with the group as a whole.

This year the Association honored presidents of firms manufacturing cast-iron boilers and radiators, and valves and fittings. They were formally introduced at the September 23 morning session.

The Association heard a number of well-known speakers talk on a number of timely subjects.

Among those who welcomed the group at its opening session September 21 were Claude W. Owen, president, American Institute and Vincent R. Impelliteri, Mayor of the City of New York.

"Miss Oil Progress" chosen by Union County to celebrate Day

IN CONNECTION with Oil Progress Week, the Oil Industry Information Committee of Union County, New Jersey, selected a "Miss Oil Progress" of Union County to dramatize the activities held as part of "Oil Progress Day, October 15, which were jointly sponsored by the OIIC and Union County Oil-Heat Associatioin.

"Miss Oil Progress" rode in a parade through the streets of Elizabeth and later that day was one of the guests of honor at a luncheon held at the Elizabeth Carteret Hotel.

Oil Progress Luncheon in N. Y. links Theme with City Progress

THEME of the 1953 National Oil Progress Week Luncheon held at the Waldorf-Astoria, New York, was the contribution of the oil industry to the city's progress and prosperity. The theme was chosen in recognition of the 300th anniversary of the founding of New York City being celebrated this year.

Principal speaker at the luncheon was B. Brewster Jennings, president, Socony-Vacuum Oil Company and a member of the board, American Petroleum Institute. Howard S. Cullman, chairman of The Port of New York Authority, also spoke.

The luncheon, which this year brought together more than 1400 members of the petroleum industry and their guests, was sponsored by The Empire State Petroleum Association in cooperation with: Fuel Oil Board of Trade of the Bronx, Gasoline Merchants of Brooklyn, Inter-City Gasoline Dealers' Association, Metropolitan Garage Board of Trades, New York Oil Heating Association, Oil Heat Institute of America, Oil Trades Association of New York.

OHA of Maryland holds regular monthly Meeting

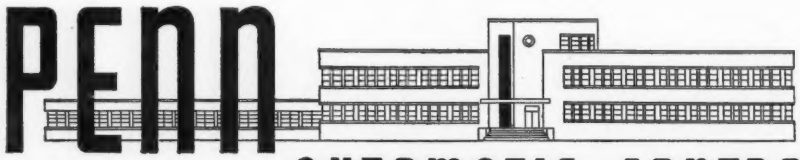
OIL HEAT ASSOCIATION of Maryland, Inc., Baltimore 1, held its regular monthly meeting, September 15 at the Hotel Stafford, Baltimore.

The Association is furnishing members, without charge, two direct mail advertising pieces to combat misconceptions by the public concerning the cleanliness of oil heating. The theme of the mailing pieces is, "Let's work together to keep your house clean." Illustrated copy advises the customer about the importance of a clean basement, clean radiators and clean registers—explaining just what causes dirt to circulate in a house.

If you ever experienced HOT-n-COLD LIVING . . . and who hasn't . . . you'll know why more and more people *want automatic heat with* PENN CONTROLS.

Here's the reason. In PENN's room thermostat, there's a little wire that produces *heat anticipation* . . . the PENN-made magic that stops HOT-n-COLD LIVING. Automatically adjusting itself to outside temperatures, this thermostat quickly balances heat in-put with heat loss, *keeps indoor temperature within a half degree of selected level.* And that is real heating comfort!

Use this powerful sales point in selling automatic heat. You'll sell more, profit more! Mail coupon for FREE descriptive folders for handout or mailing to your prospects. **Penn Controls, Inc., Goshen, Indiana.** Export Division: 13 E. 40th Street, New York 16, N. Y., U. S. A. In Canada: Penn Controls, Limited, Toronto, Ontario.



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Warm air heating Group set to hold 40th Convention

PLANS for the 40th annual convention of the National Warm Air Heating and Air Conditioning Association, Cleveland, are nearing completion.

Scheduled for Wednesday and Thursday, December 2 and 3, 1953, at the Hotel Cleveland, Cleveland, this convention will commemorate four decades of Association service to the central warm air heating and air conditioning industry.

"The well-rounded program that has been prepared will include information of interest to all segments of the industry," M. I. Levy, chairman of the program committee said. "Speakers on selling, new markets, new developments, summer cooling and latest research has been obtained to help make the 40th annual convention one of the best association sponsored meetings."

Among the subjects and speakers listed for the two-day conclave are:

"Forty Years of Progress," W. D. Redrup, president of the Association.

"Economic Aims of the Association," R. H. Collacott, assistant to the chairman of the board, The Standard Oil Company.

"To Sell Ya Gotta Tell," C. S. Stackpole, vice-president, Eureka Williams Corp.

"The Future of New Home Building," an official of the National Association of Home Builders yet to be announced.

"Participation in the Modernization Market," H. O. Chamberlain, modernization market manager, Minneapolis-Honeywell Regulator Company.

"Publicity and the Market," H. C. Gurney, chairman, Publicity & Merchandising Committee.

"More Profits in Commercial and Industrial Work," R. C. Jaye, president, Syncromatic Corp.

"Progress in Research," F. L. Meyer, president, The Meyer Furnace Co.

"What's Happening in the Field," C. W. Nessell, account executive, Minneapolis-Honeywell Regulator Co.

"Legislation," C. L. Sapp, president, Farquhar Furnace Co.

"Traffic and Tariff," E. F. Hurkman, traffic manager, Lennox Furnace.

Indiana sheet metal Group holds fall district Meeting

THE FALL DISTRICT MEETING of the Sheet Metal and Warm Air Heating Contractors' Association of Indiana, Inc., Terre Haute, was held October 9 at the Hotel Anderson, Anderson, Ind.

Prof. "Bill" Miller of Purdue University addressed the group on some of the recent advancements in indoor comfort and later answered questions put to him by contractors.

A film, "Time Saving in Pattern Making," was presented, showing methods in use by high production manufacturers which are adaptable to the average shop.

The planning committee consisted of V. Hazelton, Muncie; H. W. Meggs, New Castle; John Harbison and Lex Balfour.

Local Anderson supply firms who acted as sponsors of the district meeting include Shingledecker & Basey (formerly Gedge Bros.), Anderson; Knapp Supply Co., Muncie and The Treaty Co., also of Muncie.

Interior showing heat-anticipating wire, snap-acting contacts, simple 2-wire design and sturdy construction.

Nationally advertised in
BETTER HOMES & GARDENS
AMERICAN HOME
NEWSWEEK

Penn Controls, Inc., Goshen, Indiana

Please send me _____ copies of your FREE folder for handout or mailing.

Firm Name_____

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Manufacturers' Activities

Six executive Promotions made by Iron Fireman

TWO NEW EXECUTIVE appointments, including the creation of another vice-presidency, have just been made by Iron Fireman Mfg. Co., Cleveland.

C. C. Craft, who has been with the company 26 years, was made vice-president and secretary. He has served as secretary and controller since 1951. Earlier, he had been chief accountant of the company's Cleveland plant, office and credit manager and divisional controller.

Henry J. Mack, who joined the company in 1951, as divisional controller, was promoted to controller. Prior to coming to Iron Fireman, he has had wide experience in cost and public accounting.

Four new executive appointments recently were announced by Iron Fireman Mfg. Co. of Canada, Ltd, Toronto.

Gordon M. Murray, who joined Iron Fireman in 1945 as a Toronto retail branch salesman and was later upped to district sales manager, has been named Canadian director of sales.

Leslie H. Farrar, who has been with Iron Fireman 18 years, has been made district sales manager in Ontario.

George H. Crichton, who has also been with Iron Fireman 18 years, has been promoted to management of industrial sales and engineering in southwestern Ontario.

William H. Bannister, a 20-year pioneer with Iron Fireman, has been put in charge of production at the Toronto factory.

Coleman adds merchandising Department to sales Division

THE ADDITION of a merchandising department to its sales division has been announced by The Coleman Co., Wichita 1, Kans.

Julian F. Warren, formerly sales manager of Delco Appliance Div., General Motors Corp., has been named merchandise manager.

Under Warren's direction, the new department will develop merchandising policies, plans and programs for all

Warren

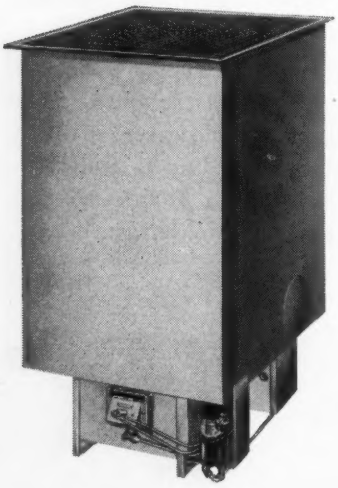
Hansen

lines of Coleman products and will operate in close cooperation with the field sales organization.

Warren joins the Coleman Company with a background of 20 years' experience in all phases of merchandising residential heating and air conditioning equipment.

His business carerr began in 1932 as a retail salesman of heating equipment. He later became zone manager of the Delco Div., General Motors Corp. and in 1942 was transferred to

Only H.C. Little Oil Floor Furnaces have these 3 sales-making advantages!



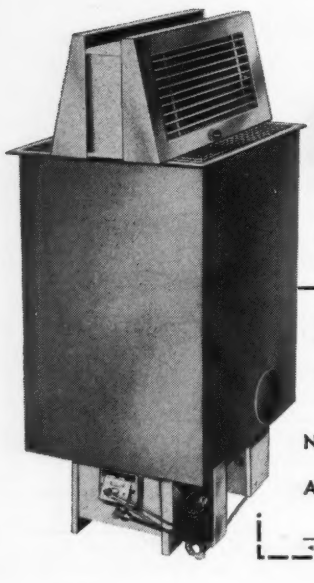
H. C. Little Automatic, Electric Ignition Oil Floor Furnaces:
Standard Register, 50,000 and 75,000 BTU Output. Dual Register, 55,000 and 80,000 BTU Output.

1 **The only floor furnaces** with a vaporizing burner listed by the Underwriters' Laboratories for #2 oil!

2 **Electric power failure can't cripple** these automatic, electric ignition furnaces! They can be operated by hand during power failure, to maintain heat when it's really needed!

3 **Revolutionary new H. C. Little Air-Jet ignitor** gives efficient, dependable service even under adverse conditions, such as poor draft, leaky valves or low voltage!

These three sales-making advantages can be making sales for *YOU!*



25th Anniversary H.C. Little Burner Co. Inc.

H.C. Little Burner Company, Inc.

Head Office:
San Rafael, Calif.
Distributors in 18 Principal Cities

WRITE FOR COMPLETE PROFIT-MAKING FACTS TODAY

H. C. Little Burner Co., Inc.
San Rafael, California Dept. F-10

Send profit making facts on your OIL FLOOR FURNACES to:

Name_____

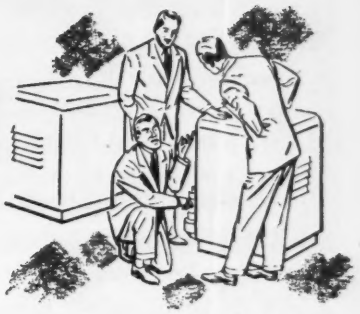
Address_____

_____

heating accessories help you make

Automatic Profits

from every oil space heater sale



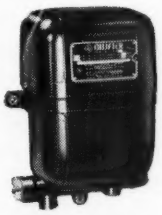
Win 2 big markets with these sales-proved controls

New customers, about to buy an oil space heater. Old customers, too. They're both hot prospects for dependable A-P automatic heating accessories. Proof... more than 10,000,000 A-P manual control valves are now in use — and hundreds of these, right in your own neighborhood, *mean automatic sales and automatic profit for you!* Learn more about these fast-selling items. Write today for complete information.

Because of A-P's nationwide service stations, you'll have no service problems.

243 SY Trapit

Traps dirt and condensation in oil before it can reach burner and choke flame. A perfect water trap. Lifetime monel-metal screen — never needs replacement. A must for all oil-burning equipment with remote tanks.



A-P Oilifter

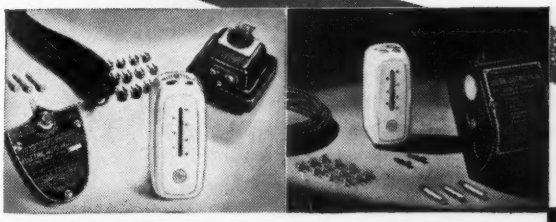
Automatically lifts oil from storage tank to burner. Eliminates *all* oil handling in the home. Pumps fuel from outside or basement tank to heater above, as high as 25 feet.

240MT-YS Thermomatic Comfort Control

Provides comfort of even, automatically controlled heat. Easily installed. No electrical connections. Can be used with most space heaters equipped with A-P manual control valve.

Retails at Only
$12.95*

**In Canada, $14.50 including Canadian Tax*



Thermostatic Comfort Control Kits

K-240 ED. Electric room thermostat heat regulation for oil heaters with one or two burners.

K-240 ETS. Automatic room-thermostat control for oil heaters with circulating fan or draft blower.

DEPENDABLE *Controls*

For Liquids • Air • Gases • Refrigerants

A-P CONTROLS CORPORATION

2458 North 32nd Street, Milwaukee 45, Wis.
In Canada: A-P Controls Corp., Ltd., Cooksville, Ont.

For Export: 13 East 40th Street, New York 16, New York, U.S.A.

Delco general offices at Rochester, N. Y. Before being made sales manager he served for four years as advertising and sales promotion manager.

Associated with Warren in the operation of the new department will be three product managers responsible for the development of marketing information and merchandising recommendations on the Coleman Company's principal lines.

One of these product managers is Robert T. Hansen, who has been named product manager for central heating and airconditioning and, another, as yet unnamed, will be in charge of merchandising plans and policies for floor and wall furnaces, space heaters and water heaters.

Hansen comes to Coleman from Acme Industries where he was regional sales manager for 11 Central states. From 1940 until 1950 Hansen held positions in the sales and engineering departments of Airtemp Division of the Chrysler Corporation. Prior to 1940 he was a field engineer for the Fairbanks-Morse Company.

WHEREVER LOSS OR DANGER DUE TO LEAKS MUST BE AVOIDED . . .
A SOLDER SEAL
TRADE
TiteSeal
MARK
PRODUCT
AYE! IT'S THR-RIFTY, TOO!
GASKET & JOINT SEALING COMPOUND
Titeseal is unsurpassed for leak-proof, pressure-tight connections. Titeseal is unaffected by water, oil, gasoline, ammonia, glycerine, steam, gas vapor, exhaust fumes and most hard-to-hold liquids. Withstands extreme temperatures; will not shrink, crack or crumble. Remains pliable and will not harden.
BRUSH-ON
TiteSeal
LIQUID TYPE NON-HARDENING
GASKET & JOINT SEALING COMPOUND
RADIATOR SPECIALTY CO.
CHARLOTTE, NORTH CAROLINA
IN CANADA: RADIATOR SPECIALTY CO., LTD., TORONTO
2031

Morrison promotional Package released to dealer Outlets

A TEN-YEAR written guarantee on the heat exchanger is being used as a talking point of a promotional package prepared by Morrison Steel Products, Inc., Buffalo 7, N. Y.

The promotional package consists of three individual mailings spaced at ten-day intervals. The first mailing consists of an 8 x 10 full color photograph, a copy of the heat exchanger guarantee and a letter covering the subject.

The second mailing consists of an unmounted display card which will be rolled and mailed in a tube. This will serve to remind the dealer of the ten year heat exchanger guarantee program.

The third mailing is a reduced full color treatment of the 8 x 10 photo condensed into a postcard. This is sent followed by a personal letter from the sales manager encouraging dealers to get this point of purchase material onto their floors before the heating season is in full swing.

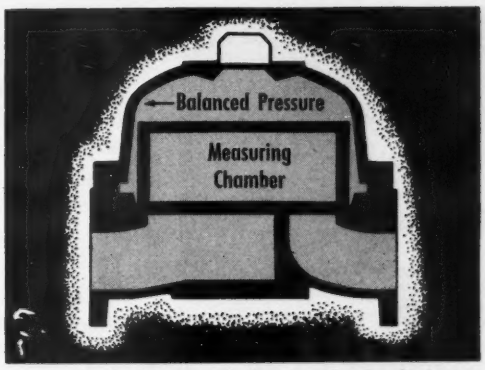
Morrison reports that in mailings of the promotional package, the firm has received many compliments on not only the mailings but on developing point of purchase material which some feel has been underestimated by furnace manufacturers in the past.

Boston Machine Works holds oilheating Meetings in Canada

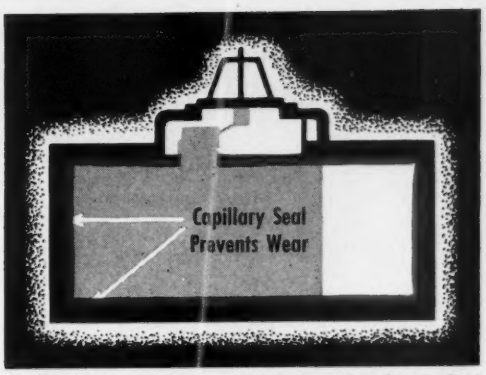
FOR THE FOURTH successive year Steel & Engine Products, Ltd., Liverpool, Nova Scotia, factory representatives in the Maritime Provinces in Canada for the Boston Machine Works Co., Lynn, Mass., sponsored two meetings for the oilheating men throughout the Maritimes.

The first meeting was held at the Admiral Beatty Hotel in St. John, New Brunswick, where 42 oilburner men in the Provinces of New Brunswick attended.

The second meeting was held at the Nova Scotia Hotel in Halifax and was attended by 88 industry people



Red Seal's double case design completely eliminates any distortion that may be caused in the measuring chamber by line pressure or by normal stresses set up in the piping system. Prevents binding, inaccuracies, and uneven chamber wear.



Seal between oscillating piston and chamber in Red Seal Meter is of the capillary type . . . a thin film of liquid whose thickness is carefully controlled by precision machining. Eliminates metal-to-metal wear, provides constant, positive seal.

LOW METER MAINTENANCE

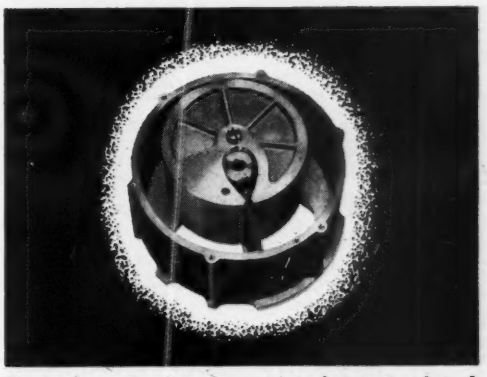
Either you buy it built-in, or you don't get it at all...

In Illinois, a petroleum jobber averaged 14,000,000 gallons per year through three 3" Red Seal meters . . . and never had to replace or work on the accurate measuring chambers in five years! In Indiana, a 2" Red Seal tank truck meter showed so little wear after 11 years of hard work it required calibration only two steps away from its original setting!

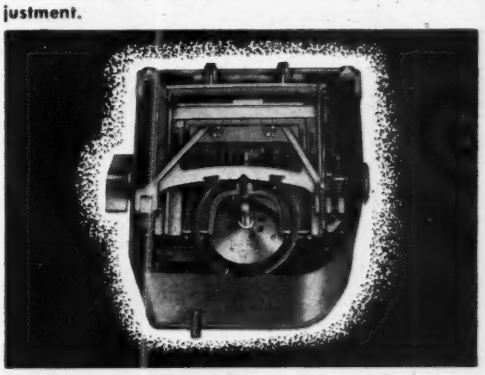
Unusual cases? No. You or your neighbor may have Red Seals with equally fine records.

It's proof of the sustained accuracy that's built into Red Seal meters . . . built into many design details like the four shown on this page . . . details you can see with your eyes. There's only one moving part in the measuring chamber, with positive, non-wearing seal of a capillary film of liquid. No intricate valves, leathers, or piston rings.

When modernizing your bulk plants and trucks, take a long look at the years ahead and specify Red Seals for sustained accuracy you can bank on. Ask our nearest Red Seal jobber or branch office for details.



Dirt in the measuring element is a frequent cause of trouble in any meter. Here's where Red Seals save, for occasional particles won't damage the Red Seal chamber. The chamber is easy to remove and clean. There is no complicated mechanism to get out of adjustment.



Patented Red Seal "Gear Shifter" firmly locks calibration in position with precision gears. It positively cannot drift or get out of adjustment. Sealers like it because it is so easy to adjust when required . . . and it's seldom required.

Accuracy You Can Bank On

neptune RED SEAL METERS

NEPTUNE METER COMPANY

50 WEST 50th STREET • NEW YORK 20, N. Y.

Branch Offices:

ATLANTA • BOSTON • CHICAGO • DALLAS • DENVER NO. KANSAS CITY, MO. • LOS ANGELES • LOUISVILLE PORTLAND, ORE. • SAN FRANCISCO

IN CANADA: **NEPTUNE METERS LTD., 1430 LAKESHORE RD., TORONTO 14, ONT.**

95-E

The **above photo** *was taken at the Moncton, N. B. airport immediately after arrival there of a party including Ralph L. Dennis and I. Maynard Nelson, both of Boston Machine Works, who were in Canada conducting a series meeting before oilburner people. Pictured, left to right, are H. Earl Thompson, Steel & Engine Products, Ltd., A. James Nagle and Cy Adcock, Irving Oil Co., I. Maynard Nelson, Ralph L. Dennis, Fred Zwanzig and Carl Mould, Heil Mfg. Co., Freeman M. Fleming, plane pilot and Arthur Irving, Irving Oil Co.*

HOW ABOUT THAT?
OLIVER, THE OIL-BURNER DEALER SPENT MONTHS TRYING TO SELL THIS COUPLE AN OIL-BURNER!
OIL HEATERS
B-B-BUT IT'S IMPOSSIBLE FOR ME TO CHOP OFF ANOTHER $50 WITHOUT LOSING MONEY!!
WE'LL BUY THAT OIL-BURNER IF.....
...AND THEN COMES THE CATCH.....
OH-NO!!
...IF...YOU BUY OUR COAL FURNACE FOR $100 SO WE CAN MAKE THE DOWN PAYMENT!!
H.T. ELMO

throughout the Provinces of Prince Edward Island and Nova Scotia.

Representing Boston Machine Works at these meetings were Ralph L. Dennis, manager, and I. M. Nelson, national field representative, Oil Heating Supplies Division. Nelson was the principal speaker. His subject was, "You Must Know How to Make the Perfect Oil Heating Installation and You Must Know How to Sell It."

In addition to these two meetings a series of special meetings were held for the various branches of the Irving Oil Company. Nelson addressed these groups on the same subjects and meetings were held in St. John, N. B., Charlottetown, P. E. I., Campbellton, N. B., Moncton, N. B., New Glasgow, N. S., Liverpool, N. S., and Halifax, N. S.

Some of these meetings were held two in one day. The private Grumman amphibian plane of K. C. Irving, of Irving Oil Co., was made available to the group in order that an afternoon meeting at Campbellton, N. B., one of the most northern towns in the Province, could be held and yet permit the group to return to Moncton in time for an evening meeting in that city on the same day.

G-E oilburner control School winds up New York area Tour

GENERAL ELECTRIC's Bandwagon Service School has wound up its tour throughout the New York area, making 21 stops en route. Prior to coming to New York more than 700 New England home-heating dealers, contractors

Biggest seller in its class!

HERE'S WHY

This axle-to-axle check shows Ford's the standout value in the 22,000-lb. G.V.W. class

ADVANTAGES	FORD MODEL F-800	OTHER LEADING MAKES					
		A	B	C	D	E	F
Maximum body and payload —15,366 lbs. or more	✓		✓		✓	✓	
Wheelbases: five or more	✓	✓	✓		✓	✓	N.P.
Front axle: Capacity—7000 lbs. or more Tread—69.24 in. or wider	✓ ✓	✓	✓		✓	✓	
Brakes: Vacuum hydraulic—lining area 485 sq. in. or more Air—lining area 534 sq. in. or more	✓ ✓		✓	✓	✓	✓	
Cab: Deluxe cab available Curved one-piece windshield Total glass area—2103 sq.in. or more Hip room—60.75 in. or more Seat shock snubbers	✓ ✓ ✓ ✓ ✓	✓	✓		✓ ✓		
Engine: V-8 type Max. horsepower—155 or more Horsepower per cubic inch displacement—0.488 or more Max. torque—284 lbs. or more	✓ ✓ ✓ ✓						
Frame: Side rail depth—9 in. or more Inside reinforcement Section modulus—13.83 or more	✓ ✓ ✓	✓ ✓	✓ ✓			✓	
Springs: Front—total capacity (at pad)—4500 lbs. or more Rear—total capacity (at pad)—17,400 lbs. or more	✓ ✓	✓	✓	✓			✓ N.P. N.P.
Turning diameter (short wb.): 45.1 ft. or less	✓	✓	✓				
Transmissions: Synchronized type 5-speed direct or overdrive available	✓ ✓	✓	✓	✓	✓	✓	✓ ✓
Rear axle: Capacity—17,000 lbs. or more	✓	✓	✓	✓	✓	✓	N.P.

N.P.—Not Published
Above data based on latest information available as of 8-24-53

Ton-mile master of the Ford Truck line . . . with the most power, yet priced with the lowest in its performance class! No wonder the F-800 BIG JOB is now the biggest seller in its class. It's powered by the ultra-modern, overhead-valve 155-h.p. *Cargo King* V-8. Handles just about any special-purpose body and payload, capacity over 7½ tons. New *Driverized* Cab cuts fatigue, increases driver efficiency.

FORD *ECONOMY* **TRUCKS** { ***SAVE TIME*** ***SAVE MONEY*** ***LAST LONGER***

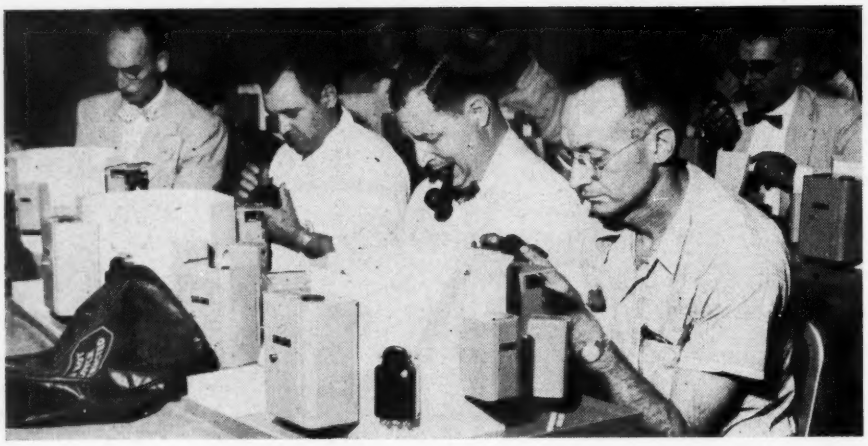
FREE! MAIL THIS COUPON NOW!

FORD DIVISION of FORD MOTOR COMPANY
P.O. Box 658, Dearborn, Michigan

Please send me without charge or obligation, complete details on new Ford *Economy* Trucks for '53!

FULL LINE ☐ HEAVY-DUTY MODELS ☐
LIGHT MODELS ☐ BIG JOB MODELS ☐
PARCEL DELIVERY ☐ CAB FORWARD MODELS ☐

Name_____
(PLEASE PRINT PLAINLY)
Address_____
City_____ State_____
T-19 Check here if student ☐



The "workshop" portion of the General Electric Service School Bandwagon where oilburner servicemen can actually work with the new G-E heating controls as they learn to service and install them. Here they are examining a transformer relay from the master control which is used in conjunction with a flame detector.

and servicemen attended showings in 14 stop-overs in Massachusetts, Maine, New Hampshire and Rhode Island.

The school, conducted by the company's Appliance Control Department and sponsored by local oilburner dealers and original equipment manufacturers, is on a year-long, coast-to-coast tour and is scheduled to make more than 150 stops and appear before an estimated 20,000 key people before winding up on the West Coast next year.

One of the highlights of the school is that each person attending has the opportunity to examine and dismantle a G.E. control.

Two of the stopovers by the Bandwagon in the New York area included one in Paterson, N. J., August 31, sponsored by HomEase Products Co., Division Bogue Electric Co. E. P. Schimman, head man of Bogue and Hag Kafafian, HomEase sales manager, handled the arrangements. Another school for oilheating people in Brooklyn and vicinity was sponsored by Sid Harvey, Inc., September 8.

Predict one out of 55 Homes Airconditioned by end of 1953

THE EXTENT of the current boom in airconditioning was emphasized with the prediction that by the end of 1953 one out of every 55 Americans will be enjoying airconditioning at home.

Cloud Wampler, president, Carrier Corp., Syracuse, N. Y., declared in an address at the official opening of Carrier's new Cleveland district office building, September 17, that this is based on the fact that over one and a half million Americans will this year join the ranks of those with room airconditioners or year-round residential units installed in their home.

"The one and one-half million

ALERT SERVICE MEN SAY "General" FUEL OIL FILTERS

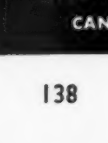
✓ AND CHECK OFF THESE ADVANTAGES

☐ QUICK PROFIT
Generals are *easy to sell* because customers *need* GF's positive filtering protection.

☐ EASY SERVICE
Single-bolt assembly means instant, sure servicing — no time lost through troublesome "call-backs."

☐ REPEAT SALES
Seasonal cartridge changes aid in finding new filter prospects, assure lucrative, dependable earnings.

☐ SUPER-FILTRATION
Finest *all-wool* cartridge and GF's unique filter design mean the *safest* filtering known!



ANOTHER MONEY-MAKER!
CLEAN RIGHT Soot Remover works safely, gently, quickly cleans any heating plant. Made for General Filters, Inc.

2A-700
for average needs

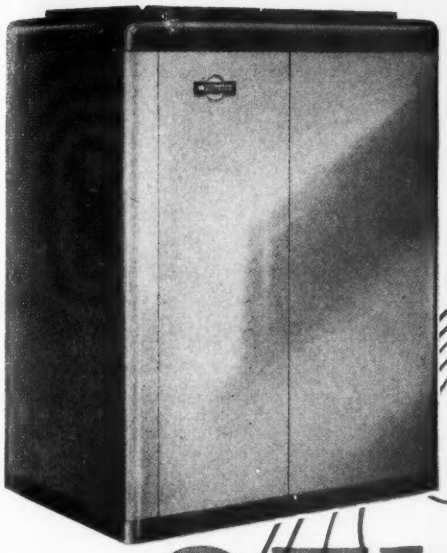
2A-700
REPLACEABLE FELT
CARTRIDGE

1A-25
for small stoves, heaters, etc.

Veteran fuel oil service men enthusiastically agree that GENERAL FUEL OIL FILTERS are the finest *all-wool-cartridge* filter money can buy! Easily replaceable felt cartridges not only reduce maintenance to a few simple steps but assure positive filtering which puts an end to unprofitable service "call-backs." One cartridge change covers the entire season. In addition, GF's quick, out-in-the-open installations save you time and money on every job.

LISTED UNDER RE-EXAMINATION SERVICE UL UNDERWRITERS' LABORATORIES, INC.

GENERAL FILTERS INCORPORATED
GENERAL FUEL OIL FILTERS
43800 Grand River Ave. Novi, Mich.
CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 2679 DANFORTH AVENUE, TORONTO 13, ONTARIO

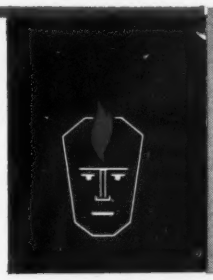


THINKS for itself...

SELLS itself...

THE WILLIAMSON HEATER COMPANY

"THE FURNACE WITH THE ELECTRONIC BRAIN"



Oilsaver De Luxe OIL FURNACE

Automatic firing revolutionized the heating industry. Now, WILLIAMSON offers you the first major advance since automatic firing . . . automatic firing PLUS automatic modulation of both fuel input and warm air circulation—twice the comfort at *twice* the economy!

During cold weather the OILSAVER operates at full capacity. When the weather turns mild (like it is 70-90% of the heating season), an *outside thermostat signals* the twin limit switches which automatically reduce the OILSAVER operation to 40-50% of maximum fuel input and cut the 2-speed blower to ½ capacity. As a result, the OILSAVER eliminates over-run . . . reduces flue losses . . . cuts oil and electric costs . . . provides balanced heat for *every* room in the house. The OILSAVER thinks for itself . . . and SELLS ITSELF!

The OILSAVER means big profits for you because it is *really* new . . . truly revolutionary! It offers customers benefits that they never before could buy . . . actually *2 furnaces for the price of one.* Write TODAY for complete details on the revolutionary OILSAVER Furnace!

THE WILLIAMSON HEATER COMPANY

O-3530 Madison Road **Cincinnati 9, Ohio**

men, women and children enjoying home airconditioning this year for the first time is considerably more than the total number of people who had home airconditioning during the entire seven previous years since the war," Wampler said.

This number is entirely apart from the millions of American men and women who enjoy airconditioning while away from their homes, in offices, plants, stores, amusement places or other commercial establishments.

The increased interest in airconditioning has been a major factor in lifting Carrier Corporation's business to record levels for residential, commercial and factory installations, Wampler reported. Total new orders booked during the first ten months of its fiscal year to date are 83% ahead of the same period a year ago. Completed sales for the same period totaled $134 million, or 62% ahead of last year.

As a result of the great interest in home and comfort airconditioning, combined with continuing heavy demand for larger office, commercial and factory installations, the airconditioning industry is currently reporting by far the best sales year in its history, Wampler said. Total 1953 sales at retail should be about $2 billion, up 60% over last year.

The recent record heat wave, while it did result in some increase in home unit sales, was not primarily responsible for the record showing, he pointed out. Even prior to the heat wave, some one and a quarter million Americans had become the beneficiaries of most of the 800,000 room units or the 40,000 year-round units for the entire home which the industry had sold.

More than another quarter million Americans are expected to be enjoying airconditioning at home before the year is out, Carrier's estimates indicate.

During the remainder of the year, another 150,000 room airconditioners and 10,000 year-round units are expected to be sold, Carrier estimates. That would add well over another quarter of a million Americans who will be cooled for the first time by home airconditioning.

To Prevent Nozzle Clogging, Install
DELAVAN NOZZLES
with Hally Filters Attached...
This nozzle-filter combination has won the praise and respect of thousands of servicemen.
With openings only one-fourth to one-third as large as those in ordinary wire screen strainers, the Hally Filter makes it impossible for foreign particles in oil ever to reach the nozzle slots or orifice.
A new DELAVAN nozzle, with Hally Filter attached, practically eliminates labor wasting call-backs caused by carbon or clogged nozzles.
Write for Catalog 148A
MEMBER OHI OIL HEAT INSTITUTE OF AMERICA
DELAVAN Manufacturing Co.
GRAND AVENUE AND FOURTH STREET
WEST DES MOINES, IOWA

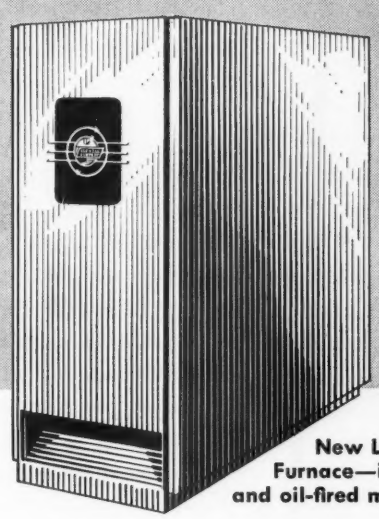
Penn Controls holds Conference of entire sales Organization

PENN CONTROLS, INC., Goshen, Ind., recently held a week long conference of the entire sales organization in Goshen, July 27th through the 31st.

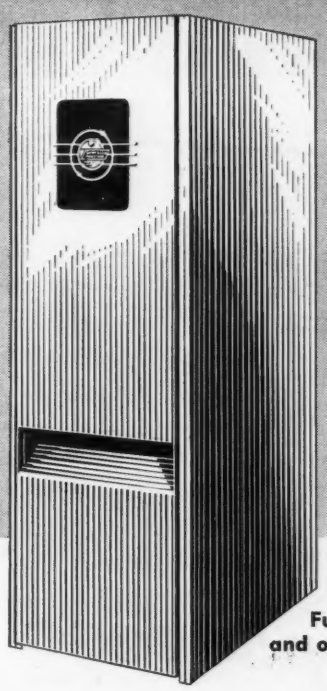
District managers, sales engineers, and representatives from sales offices throughout United States and Canada, as well as company officials and department heads, took part in the conference. The five day meeting stressed increased customer service, new products and product information and new market developments and potentials. Guest speakers representing some of the major industries served by the company outlined industry problems and trends.

R. H. Luscombe served as master of ceremonies throughout the conference, assisted by division sales managers K. W. Cash and R. V. Clark. Albert Penn, president, addressed the opening session and R. S. Penn, executive vice-president and E. B. Maire, vice-president and director of sales conducted special sections of the program.

4 BIG REASONS WHY YOU CAN MAKE MORE MONEY with CHRYSLER AIRTEMP!



New Lo-Boy Furnace—in gas and oil-fired models



New Hi-Boy Furnace—in gas and oil-fired models

★ All-new Chrysler Airtemp Furnaces offer your customers more efficient, more economical automatic heating through many exclusive engineering features—plus smart, modern styling which makes the furnace an attractive part of any location.

★ 8-Year Warranty on new corrugated design Chrysler Airtemp heat exchangers—an extra protection your customers will really appreciate!

★ You will find that people know and respect the Chrysler Airtemp name—associate it with engineering leadership—have full confidence in the quality of Chrysler Airtemp products.

★ Chrysler Airtemp Air Conditioners, so easy to install with the new Chrysler Airtemp Furnaces, give you the opportunity to sell any customer Year 'Round Air Conditioning* now or later—at a big extra profit to you.

Get all of the facts of today's opportunity to make more money as the Chrysler Airtemp Dealer in your area. Mail the convenient coupon now!

**Air or Water-Cooled Models*

Guaranteed by Good Housekeeping

Chrysler Airtemp

HEATING • AIR CONDITIONING

For HOMES, BUSINESS, INDUSTRY

Airtemp Division, Chrysler Corporation
Dayton 1, Ohio

fueloil & oilheat

F&OH-10-53

Airtemp Division, Chrysler Corporation
P.O. Box 1037, Dayton 1, Ohio

Please send full details about the Chrysler Airtemp proposition.

Name_____

Address_____ Phone_____

City_____ Zone____ State_____

Harold E. Beck, *president of the B. & F. Oil Co., Newark, N. J., presents engraved gold watches to employees who have been with the firm for fifteen or more years. The presentation was made at the company's annual outing at Mountain View, N. J. Left to right are: Mr. Beck, Lewis Decker, yard man, 18 years service; William Wilderson, driver, 17 years service; Charles Hardwick, serviceman, 15 years; Clinton Markle, serviceman, 15 years; Louis Palumbo, driver, 14 years with the company and 5 years in the armed services; Dore Colton, general counsel, 18 years with B. & F.*

Coming SOON...

A NEW *Bethlehem*

self-contained, fully automatic

OIL HEAT

package unit

FOR SMALL HOMES!

- *Most COMPACT, EFFICIENT and ECONOMICAL* **Hot Water Heating Plant** *Money Can Buy!*
- *Same High Quality Construction as the DYNATHERM and the CRUSADE-A-THERM!*
- *To Sell at a Low Price!*

See **the Big Announcement in the November issue of this magazine!**

BETHLEHEM FOUNDRY & MACHINE COMPANY

BETHLEHEM, PENNSYLVANIA

Acme Heating holds Meeting with Bridgeport, Conn. Outlet

MORE THAN 100 heating and plumbing contractors attended a sales meeting recently in Bridgeport, Conn., which was co-sponsored by Acme Heating Div., The United Tool and Die Co. and U. S. Heating Supply Co., Inc., Bridgeport, one of Acme's distributors.

The purpose of the meeting was to familiarize the U. S. Supply's contractor customers with the Acme Dual 8 line of boiler-burner units.

The meeting was conducted by G. A. Firestone, Acme's general manager. Sidney Horton, president, U. S. Heating, demonstrated Acme's stainless steel intensifier tubes. In his demonstration, Horton used a full-scale cut-a-way model of the Acme boiler.

Among those *who took part in a recent sales meeting in Bridgeport, Conn., which was co-sponsored by Acme Heating Div. and U. S. Heating Supply Co., Inc., one of Acme's distributors, were: left to right, Harry Molaver, Jack Kursawe, Sidney Horton, president, Don Murray and Arnold Alderman, all of U. S. Heating Supply.*

Later, the meeting was opened to questions which were answered by Firestone, his sales engineers and the U. S. Heating men who sat at the head table.

A drawing was held following the meeting and eight men won Acme 275-gallon tanks as prizes.

Baseboard heating Trend grows in Europe Gossett finds

A GROWING TREND towards baseboard heating in residential as well as commercial and institutional structures in Europe was noted by Earl J. Gossett, president, Bell & Gossett Co., Morton Grove, Ill., who recently returned from a European trip. Mr. and Mrs. Gossett visited in Western Europe for three months.

The conventional type of radiation is still being used in the majority of European buildings, Mr. Gossett found. However, panels and convectors as well as baseboards are being used in many new buildings. European heating engineers also are looking with increasing favor on forced circulation of hot water heating systems as well as zoning, he said.

Heating equipment in Europe more nearly approximates American standards of comfort and convenience than plumbing equipment. Gossett commented on the fact that English plumbing regulations provide for the installation of a water storage tank in every home. Supply pipes to individual fixtures lead off from the tank.

Ribnek joins Bob Walshin as Partner in Flame-Master Co.

FRANK RIBNEK has joined Bob Walshin, president, Flame-Master, Chicago, as a partner in the firm. The company name will be unchanged but it was announced that the company has moved to larger quarters at 3118 No. Milwaukee Ave., Chicago.

Walshin will continue to be president and also fill the position of treasurer. Ribnek is vice-president and secretary.

The company is marketing a low pressure pump for converting high pressure gunburners for low pressure operation.

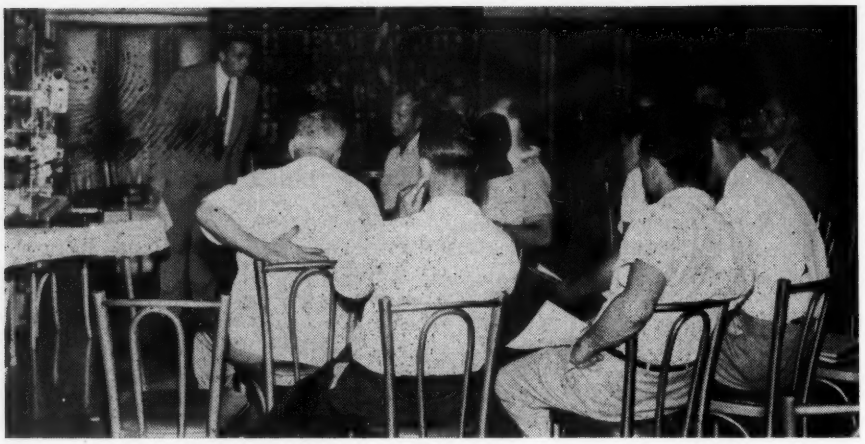
Norge Heat has published 50-page home heating Book

NORGE HEAT DIV., Borg-Warner Corporation, Kalamazoo, Michigan, has recently published a 50-page book entitled, "The Golden Book of Heating Knowledge," which provides basic heating know-how for a consumer to intelligently appraise the different types of heating systems.

The purpose of this informative guide is to provide usable information about "warm air" and "wet heat systems" that will enable a home owner or prospective home owner to get a better understanding of the advantages and disadvantages of the wide range of heating equipment offered in today's market. Information is also given covering heating controls, fuel cost reduction, and a glossary of heating terms.

The book is obtainable by mailing 25 cents in coin, along with your request to Norge Heat Div., Borg-Warner Corporation, 346 E. South Street, Kalamazoo, Michigan.

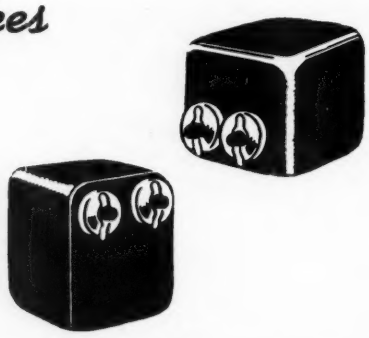
Firomatic
PRODUCTS
VALVES • FUEL OIL FILTERS • SAFETY DEVICES
FIROMATIC FUSIBLE AND NON-FUSIBLE VALVES
Illustrated are Globe and Angle Valves —two of more than 80 different types available in a line that includes Globe, Check, Lever, Anti-hum, Tank and Range Burner Valves. All Firomatic Fusible and Non-Fusible Valves can be operated manually and are provided with self-adjusting stuffing box and back seat feature which prevent leaks at the valve stem.
FIROMATIC TANK VALVE
The newest addition to the Firomatic line, the offset angle tank valve is designed for use on any oil tank or drum. Available in fusible and non-fusible types, they give a straight-thru connection from the tank to the valve to the filter, eliminating the use of fittings which increase the danger of joint leaks.
You Can Pay More, But You Can't Buy Better!
SEND FOR NEW CATALOG "F"
THE MORSE-SMITH-MORSE CO.
165 Dexter Avenue
Watertown, Mass.
SOLD NATIONALLY
BY JOBBERS ONLY



General view *of one of three meetings held recently in Newark, N. J. by the Perfex Corp. Arranged by James W. McGuire, eastern regional manager, the meetings were previews of the course of instruction being presented by Perfex during the first three sessions of the Oil Heat Service Schools sponsored by the Oil Heat Institute of New England. Perfex men who conducted the Newark meetings are the same as those who will instruct during the New England schools: Harold Hatch, manager of Perfex's service department, in charge; Charles Soper, manager of the Boston branch; Richard Gallagher, field engineer working out of the Boston office; Harold Wellnitz, application engineer from the factory. Gallagher is conducting the portion of the program caught in the photograph.*

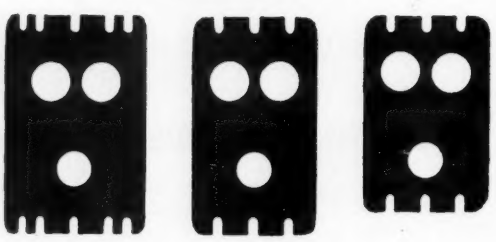
Service Many Makes of Oil Burners?

THEN CARRY THE MAGNEX IGNITION TRANSFORMER REPLACEMENT KIT



Kit No. RK-500 Contains:

- 2 standard transformers
- 3 interchangeable bases
- 8 fastening screws
- 2 studs for stud mounted transformers
- 2 rajah adapters
- 2 spring clip adapters



Make Easy Transformer Replacements On Practically Every Standard Oil Burner

NOW oil burner servicemen can save time and expense . . . give better and faster customer service with this easy-to-carry, compact kit. Emergency replacements are simple. You make an exact, permanent installation with the *right* transformer, the first time on the job . . . no need to waste time with a second trip.

Scientifically designed and constructed Magnex transformers are standard 115 volt primary; 10,000 volt secondary. Four knock-outs for the internal junction box are provided on sides, end and bottom. One transformer has high tension terminals on the end; the other in the base. With the three interchangeable mounting bases, for use with both transformers, a great variety of replacements are possible. Other voltages are also available for special replacements.

MAGNEX IMPROVED TRANSFORMERS USE THE BEST QUALITY WORKMANSHIP AND MATERIALS — UL APPROVED

- Exclusive tape-wound high grade silicon steel core assures a small body, low heat-rise transformer at considerable savings
- Formvar insulated wire used throughout allows full short circuit protection
- Positive shielding eliminates radio and television interference
- Core and coil balanced construction is unique

"Quality Products because our Reputation depends on Outstanding Performance"

MAGNEX Corporation

90-28 VAN WYCK EXPRESSWAY
JAMAICA 18, NEW YORK
Subsidiary of Nathan Straus-Duparquet, Inc., New York, N. Y.

Sid Harvey, Inc., appointed Oil-O-Matic repair Station

SID HARVEY, INC., Valley Stream, N. Y., has been appointed factory rebuilding station for the Williams Div., Eureka Williams Corp., manufacturers of the Oil-O-Matic oilburner.

All of the 25 Sid Harvey stores will stock the complete rebuilt Oil-O-Matic line for immediate exchange so that any dealer may replace a worn out or defective part without waiting for the actual rebuilding to be done. The defective parts are returned by each store to Sid Harvey's plant in Valley Stream where they are rebuilt and returned to stock.

Lunkenheimer expands steel and iron valve Facilities

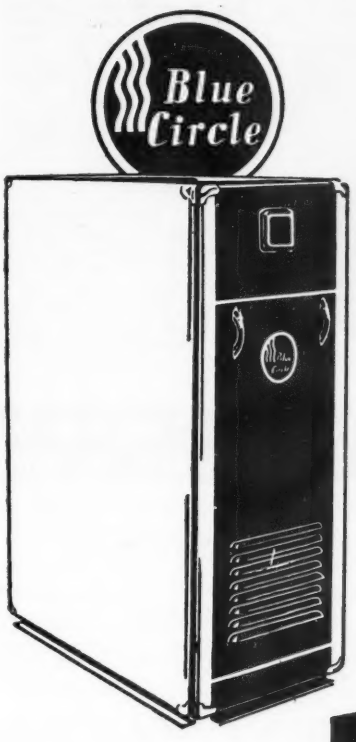
FACILITIES for producing steel and iron valves at the Carthage, Ohio, plant of The Lunkenheimer Co. are being expanded to increase its production schedule.

Because of the growing demand for steel valves in the petroleum and other industries, P. M. Arnall, president, The Lunkenheimer Co., said that present production facilities have been overtaxed.

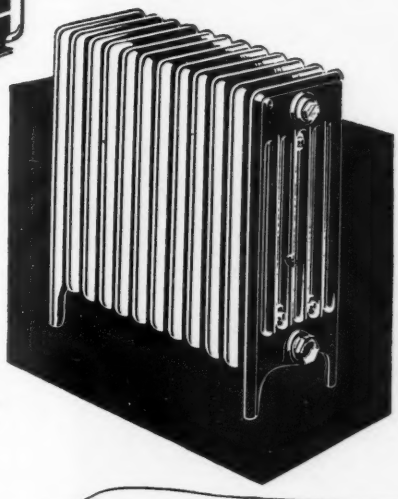
Steel and iron castings will be supplied to Lunkenheimer specifications by outside sources, which necessitates adjustment in the foundry working force and allows Lunkenheimer personnel to devote their full time to the production of steel and iron valves.

Why DUNKIRK *Oil Burning* BOILERS *Sell and* STAY SOLD

AND THIS IS YOUR BIG SELLING SEASON



Showing latest type OB Series Oil Burning Boiler.



Dunkirk Slender Radiators combine handsome design with the rugged strength of cast iron . . . the life-time metal.

Sound engineering design assuring maximum fuel economy.

Accurate ratings strictly in accordance with industry standards.

Use of cast iron for boilers and radiators for life-time satisfaction and performance.

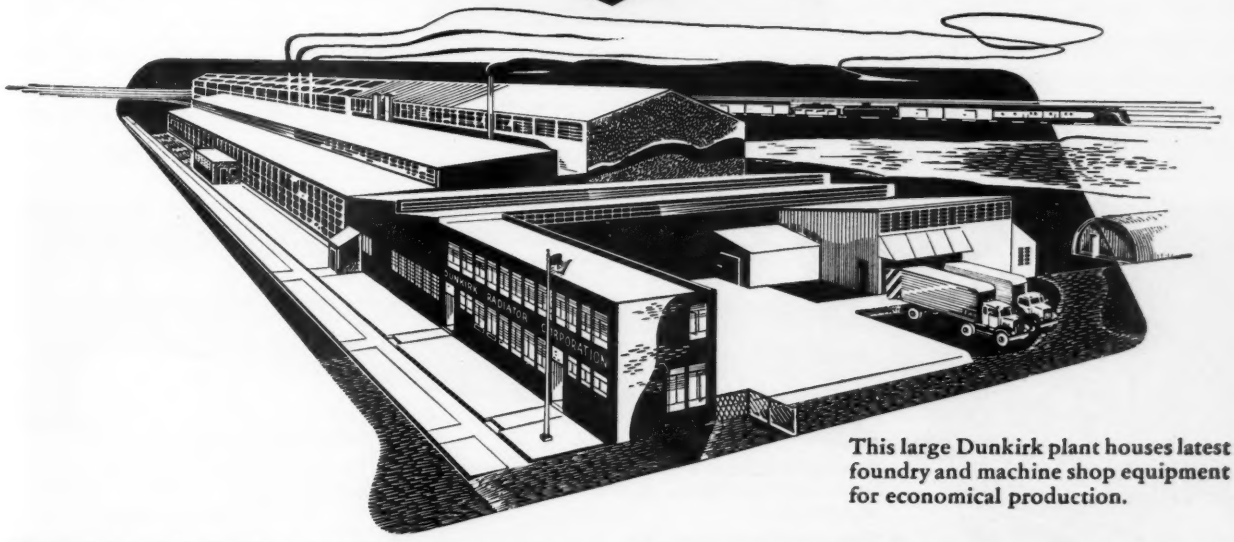
Boiler sizes to fit wide range of household and commercial needs.

Modern production facilities conveniently located on main line railroads.

Sincere understanding of field problems.

Record of previous war-time experience responsible for cordial trade relations regarding maintenance of delivery schedules.

Merchandised right, priced right and backed by a company known for sound policies that work hand in hand with heating men.



This large Dunkirk plant houses latest foundry and machine shop equipment for economical production.

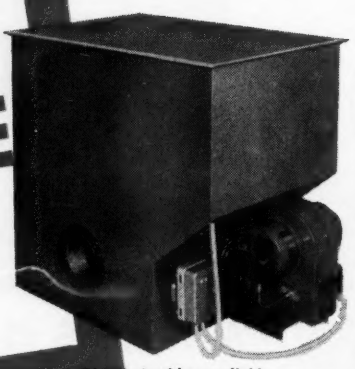
DUNKIRK RADIATOR CORPORATION

DUNKIRK, NEW YORK

fueloil & oilheat

More Proof that KLEER-KLEEN is First with the Finest

Now . . . A COMPLETE LINE OF KLEER-KLEEN PRESSURE BURNER FURNACES



All KLEER-KLEEN Pressure Burner Floor Furnaces are Listed and Labeled by Underwriters' Laboratories, Inc. — an added measure of safety and protection!

Now . . . KLEER-KLEEN, America's fastest growing furnace manufacturer, introduces a complete line of silent flame Pressure Burner Furnaces!

Now . . . From 70,350 to 110,000 Btu/hr. heat output—the finest line of Pressure Burner Furnaces for every purse and every purpose!

Now . . . SELL the most modern oil furnace on the market—floor, wall, basement and utility room models that outperform many more expensive heating units!

Distributorships available in some areas!

KLEER-KLEEN MANUFACTURING COMPANY
140 ORCHARD AVENUE HAYWARD, CALIFORNIA

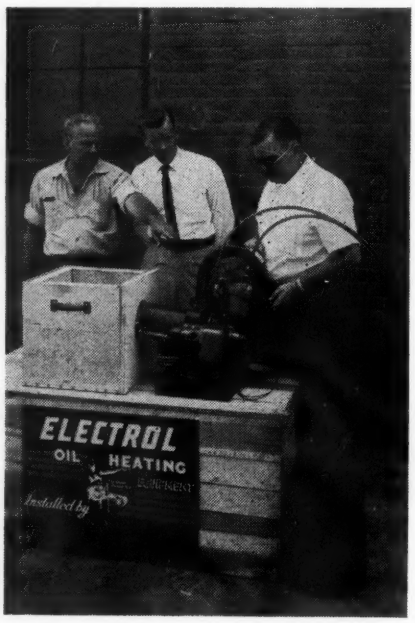
. . . . Manufacturers' Activities

Portable demonstration Kit developed by Electrol Burner

A NEW PORTABLE Electrol Oil Burner Demonstration Kit, consisting of burner, portable firing box and transparent plastic oil line, has been developed by the Electrol Burner Mfg. Co., Inc., Rutherford, N. J.

The new kit is designed for use before technical and non-technical audiences. It shows Electrol's burner features in actual operation. For example, Electrol's ball flame feature can be seen when the burner is in operation. The special Electrol pump can also be seen in action by means of transparent plastic suction and return oil lines.

The demonstration kit is also equipped with Electrol's master air compensator to illustrate the ease and convenience with which the ball flame



can be adjusted to fit any size boiler, along with other features such as cut-off valve, filter and so forth.

Robert Andler, *right, Electrol president and Mr. Schrader, left, chief engineer, show the Electrol burner features to a plumbing and heating contractor by means of Electrol's portable demonstration kit.*

Standard (Indiana) plans to build new-type catalytic Unit

STANDARD OIL CO. (Indiana) announced plans to build a large new type fluid catalytic hydroforming unit —the first of its kind in the world—at its Whiting, Ind., refinery.

A. F. Endres, refinery manager, said the 200-foot high unit will permit further improvement of Standard's motor gasoline. It will change 30,000 barrels a day of low octane naphtha into high octane hydroformate to be blended with other gasoline stocks, he explained.

M. W. Kellogg Company of New

(*Please turn to page* 179)

ONLY McCORKLE CONTROLS for Vaporizing Oil Burners give you this combination of vital features

- Patented dual blade bi-metal assembly—insures trouble-free operation—supplies a wide margin of *extra* power.
- More rapid heat transmission.
- Snap acting Micro-switch.
- Heavier, more rugged construction.
- Less service—greater customer satisfaction.

We will gladly furnish literature and specifications for your particular requirements. Write us today!

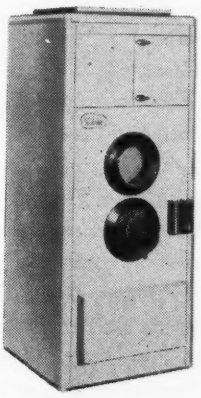
D. H. McCORKLE CO.
Box E, Station A Berkeley, California

New Products

Each New Products item has an identifying number. If you want more information on any equipment listed here, circle the corresponding number on the reply coupon appearing at the bottom of the page and mail to us.

Toridheet introduces counterflow Unit fired with wall flame rotary Burner

TORIDHEET announces the addition of the Model ORD counterflow furnace to its line of wall flame heating units. This is a brand new design with a capacity of 100,000 Btu at the bonnet. The unit can be installed in a closet or utility room, in or adjacent to living space without fear of any disturbing noise.



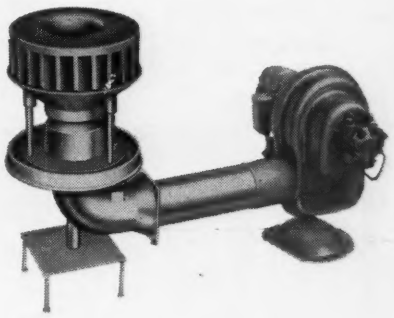
Engineered for perimeter heating systems, the cold air is brought into the top of the unit and emerges through the bottom into ducts set into the floor or in crawl space under the floor. Two 10" x 20" filters are accessible through double doors at the top of the cabinet and all inspection, cleaning and servicing is accomplished from the front of the unit through removable panels. Flue pipe can rise vertically from an elbow mounted to flue outlet. Installs in a closet 36" x 52". Toridheet also has a gun-fired 80,000 counterflow unit.

Made by: Toridheet Div., Cleveland Steel Products Corp., 7306 Madison Ave., Cleveland 2, Ohio.

Circle E1 on coupon

Oilgas Generator is combustion Head for Use with any gun type Oilburner

OILGAS generating combustion head may be installed with any gun type burner quickly and easily. Carburetion is the secret of this new unit, in which preheated air hits the oil spray within a few seconds of lighting the unit, causing the oil to gasify. A flame temperature of 1800° to 1900° F. is attained. The flame burns four inches from the spray nozzle at all times, preventing corrosion or carbonizing of a special 45° spray angle holocone nozzle.



The combustion head comes ready to install and does not require adjustment of nozzle or other parts. Special electrodes require no adjustments if replacements ever need be made. In case of transformer or electrode failure the combustion head may be ignited by hand. The fire pot of any furnace may be sealed off with 25 gauge galvanized steel making the installation simple and economical. No brick combustion chamber is required.

The retort part of the unit is made of the finest stainless steel which is heat resistant or ceramic coated. The base plate is cast iron and is heat resistant coated. An air blast tube brings air from the gun air tube to support clean combustion. A base with leveling and adjusting screws posi-

---

FUELOIL & OIL HEAT *(Oct. 1953)*
2 West 45th St., New York 36, N. Y.

We want more information about the New Products item whose number I have circled below. Please secure this for me from the manufacturer.

NEW PRODUCTS:

E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	E13
E14	E15	E16	E17	E18	E19	E20	E21	E22	E23	E24	E25	E26
E27	E28	E29	E30	E31	E32	E33	E34	E35				

CATALOGS:

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13
C14	C15	C16	C17	C18	C19	C20	C21	C22	C23			

Name ..... Title .....

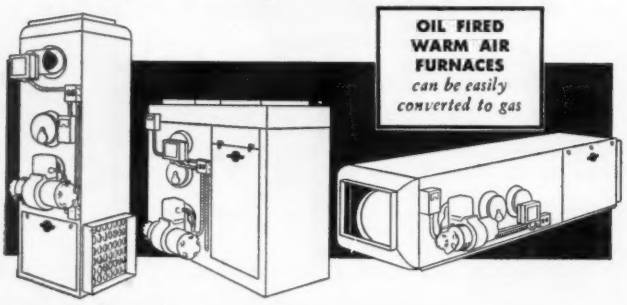
Company .....

Street ..... Zone ..... City .....

YOU ALSO GET THE
BIG SIZES
in the BESSER line!

A COMPLETE RANGE OF SIZES . . .
from 75,000 BTU to 500,000 BTU

A COMPLETE LINE OF MODELS . . .
Horizontal • Vertical • Basement
Downflo • HiBoy • LoBoy • Suspended



Plus SPECIAL ORDER SERVICE
on any size unit UP TO 1,000,000 BTU

For jobs that require units larger than 500,000 B.T.U., Besser offers fast, reliable Special Order Service. We have the facilities to build any type unit required, up to 1,000,000 B.T.U. output. Every "special order" is built to the same high standards of the regular Besser line. Whatever your need, we can build it!

And now! A NEW PROFIT-MAKER JOINS THE BESSER LINE
Revolutionary
HORIZONTAL Summer AIR CONDITIONERS
for Residential or Commercial installations

Combining space-saving "horizontal" design with an entirely new cooling principle, Besser Summer Air Conditioners bring central air conditioning within the reach of almost everyone. Designed for installation and operation in conjunction with central heating systems, units are fully adaptable to either warm air or hot water heating. Greatly increased efficiency lowers initial and operating costs through use of smaller units.

Available in 2, 3 and 5-Ton units.

"Only the BEST goes into a BESSER!"

BESSER WARM AIR FURNACES
Summer AIR CONDITIONERS
The Complete Line for Year-Round Profits
BESSER METAL PRODUCTS CORP., P. O. BOX 4064, CHARLOTTE, N. C.

tions the flame at the proper height in the fire pot. An adapter flange connects the combustion head to any gun type burner.

The unit will be marketed directly from the factory to dealers.

Made by: Oilgas Generating Burner, Inc., 410 South Jefferson St., New Castle, Pa.

Circle E2 on coupon

Fireye programming Control shuts down within four Seconds on flame Failure

A NEW Fireye programming control for commercial-industrial gas, oil, or combination gas/oilburners provides complete protection against flame failure together with programming to meet any application requirement. Employing the flame-sensitive "Fireye" Cell, it shuts off fuel in 2 to 4 seconds after a burner flame goes out.

The Fireye control offers simplified specification, installation and maintenance by providing a single standard "package" unit with complete automatic startup, operating, and shutdown control for any type of burner and a selection of programming times for three types of ignition operation to comply with Factory Mutual requirements.

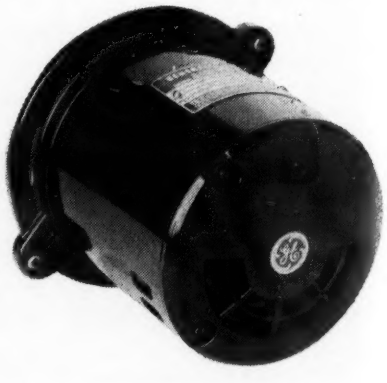
It has a fail-safe circuit and plug-in chassis for accessibility and ease of installation. The control is rugged in design, built to withstand vibration and give continuous performance under the most adverse industrial conditions.

Made by: Combustion Control Corp., 718 Beacon St., Boston 15, Mass.

Circle E3 on coupon

G. E. oilburner Motors have reversible rotation Feature

A G. E. fractional-horsepower motor for high- and low-pressure oilburners, smaller and lighter than previous models for this application, has been announced. It is believed to be the first standard oilburner motor to be produced in recent years featuring reversible rotation in 1/8 and 1/6 hp ratings. Rotation can be



changed by switching connections in a terminal box on the pulley-end flange face.

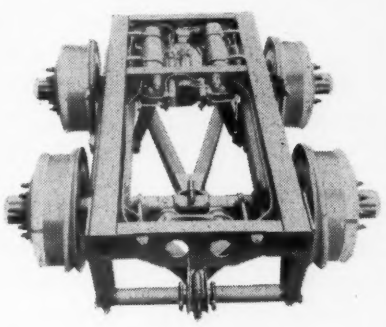
These motors have the same flange mounting as did previous G. E. models and are over 50% lighter; the 1/8 hp model weighs 11 pounds, 56% less than its forerunner. Other features include increased lubrication life, black enamel satin finish and insulation designed to resist moist basement atmosphere. A manual reset thermal protector button is located on top of the motor close to the instruction nameplate for easy accessibility.

Made by: General Electric Co., Fractional Horsepower Motor Dept., Fort Wayne, Ind.

Circle E4 on coupon

Trucktor "Air Spring" tandem Suspensions adjust automatically for varying Loads

TRUCKTOR'S regular rubber-mounted tandem suspension can be furnished with the new General Air Spring. These units mean increased payloads for haulers because they reduce road shock as that lightweight semi-trailer tanks can be used with less chance of failing.



Vehicles equipped with the Trucktor "Air Ride" Tandem literally "ride on air." The pressure in each side of the air spring varies automatically with the load. There is no axle hopping, and no chance of the air spring changing its position while Trucktor's rubber-mounted torque yokes absorb all brake reaction. Other advantages of the new unit are no rattle, no greasing, little or no maintenance.

A typical Trucktor "Air Ride" Tandem includes: frame, air kit, two axles, brakes, tires and wheels. Trucktor delivers the units complete to the tank manufacturer or operator, ready to be installed on trailers.

Made by: Trucktor Corp., Route 22, Mountainside, N. J.

Circle E5 on coupon

Sav-A-Tank Cartridges offered to stop fuel Tank Rust and Corrosion

SAV-A-TANK rust preventative now is available in crystal form packaged in a cartridge that is dropped into the fuel tank once a year. Cartridges are available in two sizes: regular size for tanks from 15 gallon to 1,000 gallon capacity and a Junior size for small auxiliary cans up to 15 gallons.

with the

Pullman

BOILER & FURNACE VACUUM CLEANER & POWER BLOWER

..ONLY.. PULLMAN converts to POWER BLOWER in just 2 seconds

Get into the cellar with Pullman low cost vacuum cleaning and pick up money on sales and service jobs that develop there. Pullman has large 1½ bushel capacity, converts to power blower in 2 seconds, weighs 30 lbs., carries by one hand, has no outside bag to snag or tear, throw away paper filter keep suction powerful. Send coupon for literature.

PULLMAN VACUUM CLEANER CORP., BOSTON 19, MASS.

Pullman Vacuum Cleaner Corp., 33 Allerton St., Boston 19, Mass.

Send me literature about Furnace & Boiler Vacuum Cleaning

OHI

SIGNED

COMPANY

STREET

CITY ZONE STATE

CONVERSION JOB *Tips*

How Lightweight Refractories Reduce Soot and Odor

"But don't you get a lot of soot from oil burners?"

You've probably run into this question more than once, and with today's tough competition from other fuels, getting and holding an oil account is no cinch. Today's home owner knows there is such a thing as clean, odorless heat—and he doesn't want any soot or smell from his oil-fired conversion job.

What does this have to do with refractories? Just this: The lighter the firebrick you install, the higher the flame temperature will be. This is because lightweight insulating firebrick come up to operating temperature on the surface in a fraction of the time it takes to heat ordinary firebrick — in effect, they bounce the heat back into the firebox, resulting in a higher flame temperature. This means more complete combustion—clean, odorless heat.

Because B&W Insulating Firebrick are the lightest weight refractories of their kind made, you can be sure of less soot and odors with a B&W IFB firebox.

Naturally, because B&W IFB store and conduct less heat, you are going to build a community-wide reputation through your customers' lower fuel bills. B&W Insulating Firebrick can mean as much as 25% fuel savings—a fact your customers will be sure to talk about.

Send today for the
B&W FIREBOX HANDBOOK
a valuable guide for every installer

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
General Offices: 161 East 42nd St., New York 17, N.Y.
Works: Augusta, Ga.
R-495

The crystals in the Sav-A-Tank cartridge dissolve slowly, neutralize any sulphuric acid and coat the inside of the tank where water is present. This thin protective film becomes attached to the tank wherever water is present, preventing the water from touching the metal and inhibiting rust and corrosion.

Made by: Sudbury Laboratory, South Sudbury, Mass.

Circle E6 on coupon

Detroit Controls announces new "Weatherbrain" Control

THE DETROIT "Weatherbrain," indoor-outdoor control, is a thermostatic water mixing valve which delivers water to radiators or panels at exactly the right temperature to overcome the heat loss of the house. Mixed water temperature is governed by an outside bulb. Entirely mechanical in operation, the "Weatherbrain" Control employs no electronic or electrical circuits, but is completely self-contained and easily installed.

The control is available in several indoor-outdoor temperature ratios and the actuating power elements are interchangeable. One adjustment is made at the time of installation and no further adjustment is required.

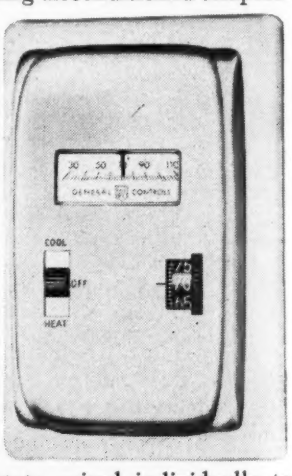
Particularly adaptable to jobs where more than one type of radiation might be installed, the "Weatherbrain" is ideal for zone control. Because mixed water at just the right temperature is constantly delivered to the radiation, the effects of thermal expansion are greatly minimized.

Made by: Detroit Controls Corp., Detroit, Mich.

Circle E7 on coupon

General Controls T-70H is Thermostat for Control of Heating and Cooling

GENERAL CONTROLS has developed a two-way thermostat for the dual purpose of controlling airconditioned temperatures in summer as well as warmth in winter. The T-70H thermostat has a three-position switch with "off," "heat," and "cool" settings. In cold weather, the "heat" position regulates furnace output; in hot weather, the "cool" position and the temperature regulating dial signal room temperatures to airconditioning controls in the new combined units.



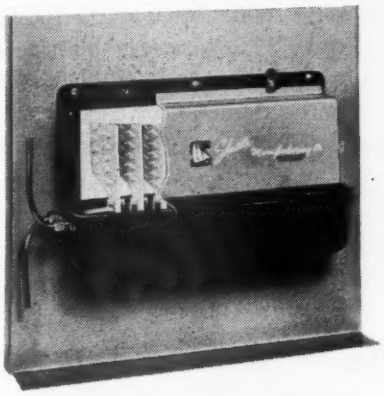
In addition to eliminating the need for separate thermostats, wired individually to furnace and airconditioner, the T-70H reduces installation costs with a four-wire, low-voltage thermostat cable which connects with both heating and cooling controls in year-round air-comfort units.

Made by: General Controls Co., 801 Allen Ave., Glendale 1, Calif.

Circle E8 on coupon

New Humidifier for confined Spaces announced by Skuttle

MODEL 450 humidifier announced by Skuttle for furnaces and heaters which do not have the available space for standard humidifiers, makes possible a regular and adequate supply of moisture to homes heated by counterflow, floor, low highboy and highboy furnaces, as well as space heaters.



The new model mounts on the casing and only the working surfaces of the Vapoglas plates are in the warm air stream. If there is a 3" or more space between casing and furnace, Model 450 will fit. The float chamber and plate pan are combined, the former being of the tubular glass type, hermetically sealed against leakage. The pan is double coated enamel, steel resistant to acid and alkali. The valve is chrome and nickel plated brass, while the plate rack is made of aluminum. Valve assembly, excluding float, is interchangeable with Skuttle series 600. Installation requires only a slot in the heater casing.

Made by: Skuttle Mfg. Co., 4099 Beaufait Ave., Detroit 7, Mich.

Circle E9 on coupon

Rubber-bonded Abrasive featured in Arcee copper Fitting cleaning Tool

A COPPER fitting cleaning tool by Arcee uses a rubber-bonded abrasive to give the tool longer wear and save labor costs. The abrasive is not only on the outside of the cylinder, but is bonded through the rubber. As the abrasive wears, simply tighten the wing nut to expand the cylinder.

This new tool cleans ½" fittings. Abrasive refills are inexpensive and durable.

Made by: Arcee Products, Pawtucket, R. I.

Circle E10 on coupon

SK packaged Units for Pumping, Heating and Straining of Fueloils

SK pumping, heating and straining units for Bunker "C" or other grades of fueloil consist essentially of duplex suction and duplex pressure strainers, pumps, heaters, thermostatic control valve, relief valves, gauges, thermometers and accessories. The duplex construction insures dependable and uninterrupted service, since one system of pump-

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SILENT KORTH OIL HEAT

The Service Free Burner

The profits are yours—TO KEEP—when you sell and install Quality Deluxe Silent Korth oil burners. Dependable performance eliminates costly service calls. Service-free Korth saves you time, protects your profits, invites recommendation business.

MODEL SR
(available in 2 sizes)
.75 to 3.0 G.P.H.

MODEL T
(available in 4 sizes)
.75 to 20.0 G.P.H.

QUALITY
Standard Specifications

GENERAL ELECTRIC or OHIO Motor with Thermal Overload. SUNDSTRAND Fuel UNIT. JEFFERSON Ignition Transformer. MINNEAPOLIS-HONEYWELL Controls—Thermostat, Relay, Plain Limit. ONE PIECE CAST HOUSINGS: Motor & Pump Bores Machined for accurate alignment. LOVEJOY 3-PIECE FLEXIBLE COUPLING Connecting Motor & Fuel Unit for quiet operation. All the way thru—SILENT KORTH is built for outstanding performance!

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SILENT KORTH OIL BURNERS & PARTS ARE SOLD ONLY THRU JOBBERS & DEALERS

ECKHART MFG. CO., INC.
UNION, NEW JERSEY

NOW ONE GAUGE FOR ALL INSTALLATIONS

with the newly improved *Rochester* UNIVERSAL® oil tank gauge

IT'S WEATHERPROOF! . . . Ideal for both indoor and outdoor use. You have to stock *only one* gauge for all installations.

NEW TYPE PLASTIC HEAD is hermetically sealed . . . makes it absolutely leakproof, dustproof and shockproof. Pressure-tight, too.

POSITIVELY PREVENTS FUMES and seepage from leaking out. This is because there are no holes. A *permanent magnet* transmits float-arm action.

EASY-TO-READ "DUAL DIAL" saves time and effort in checking and filling tanks.

EASY TO INSTALL and stocked by leading wholesalers everywhere for all standard oil burner storage tanks. Underwriters' approved. Rochester Manufacturing Co., Inc., 8 Rockwood Street, Rochester 10, N. Y.

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

Rochester
MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS GAUGES AMMETERS

ROCHESTER DEPENDABLE ACCURACY GAUGES

heater-strainer is in operation while the other is in a stand-by position.

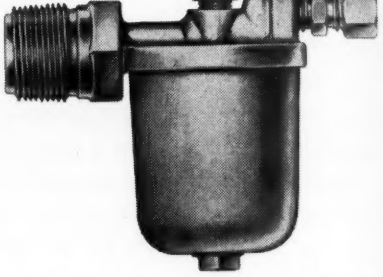
Main base is of fabricated steel construction, ½" or ⅝" thick, with base plate drilled for anchor bolts and spacers provided to make the base oil-tight. When the SK unit is received it is ready to be placed on its permanent foundation and connected to station piping. Each unit is tailor-made to meet application requirements, calibrated to comply with specified capacity, plus an operating margin in excess of hourly consumption. Each pump and heater can handle the entire capacity requirements. Units also can be furnished with a single pump and heater.

Made by: Schutte & Koerting Co., Cornwells Heights, Bucks County, Pa.

Circle E11 on coupon

New Series of Sette oil Filters for small to medium size Units

MARQUART announces four new Sette oil filters having indestructible metal bowls and ceramic Microstone elements. The new models are designated as Model F10B for tank or drum installation on small to medium size oilburning units; Model Z-1 screws directly into the control valve on small installations; Model MS-3 for filtration of medium to large size installations; and Model KS-3, a high capacity filter with 120 mesh removable pre-screening top section.



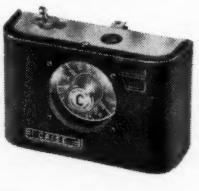
The ceramic element can be cleaned and reused, or replaced at low cost. Sette filters are designed to stop foreign particles down to 1/10,000 of an inch and prevent rust, tank and pipe scale, fine dirt or oil impurities from reaching or clogging nozzles or damaging pump valves, bearings and fittings. The filter sump can be cleaned in three minutes and the element replaced in five. The filters can be entirely disassembled by removal of a single cap screw and are for use with No. 1 and 2 fueloils.

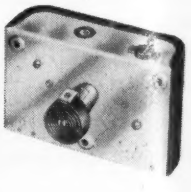
Made by: Marquart Mfg. Co., 1241 High St., Oakland 1, Calif.

Circle E12 on coupon

Crise bimetal fan and limit Control features compact, space-saving Design

A NEW WARM AIR combination fan and limit control with summer switch features a spiral "watchspring" type bimetal element, the use of which holds the overall depth of the unit to less than 2". This compact design





permits mounting within a minimum area between the control panel and heat exchanger.

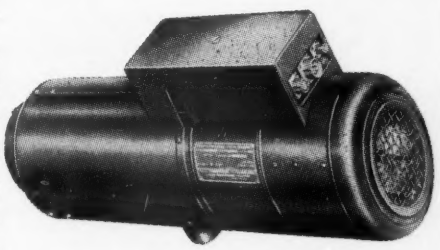
Scale settings are visible through a Lucite dial. The FAL-20A control available to furnace manufacturers, measures 5¼" wide by 3½" high by 1¾" deep. A jet black, baked crinkle finish is used.

Made by: Crise Controls Div., Acro Mfg. Co., Columbus 16, Ohio.

Circle E13 on coupon

Perfection Stove engine Heater can be used with Cars or Trucks

A 60,000 BTU HEATER has been designed by Perfection Stove for use with trucks, tractors or automobiles. Installed under the hood or between the radiator and grill the unit may be used to pre-heat the engine, provide stand-by heating or give controlled booster heating while the engine is operating. Its action may be completely automatic for thermostatically-controlled heating or it may be manually controlled.



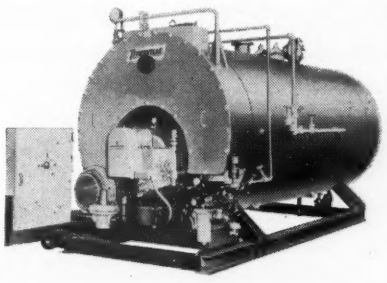
The heater features electric ignition and an electrically-operated blower and operates by heating the engine coolant, which in turn heats the engine. The exhaust gases from the heater may be used to heat the battery and also may be directed into a special shroud provided for the oil pan.

Made by: Perfection Stove Co., 7609 Platt Ave., Cleveland 4, Ohio.

Circle E14 on coupon

Titusville-Iron Fireman boiler Unit for power and heating Jobs

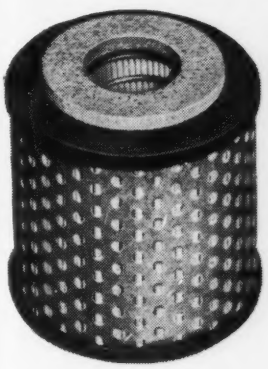
A PRESSURIZED boiler-burner unit, developed for high or low pressure heating, power and process steam, represents the work of two separate companies — Titusville Iron Works Company which designed the boiler; and Iron Fireman Manufacturing Company, which developed the burner system. The unit operates on oil, gas, or oil and gas combination, with switching of fuels accomplished in seconds, is shipped completely assembled on steel skid, and is ready for operation as soon as fuel, water, steam and electrical connections are made.



Of ASME Code construction throughout, the boiler was designed with unusually large furnace volume to assure

Good news for you— and your customers!

Anti-spilling depressed cover . . . over 200 sq. ins. of filtering surface . . . stops dirt down to .0002 in. . . . more than 100 g.p.h. gravity flow capacity . . . 7,000 gal. per year dirt-retention life.



Purolator Filter Refills are interchangeable with other popular filters.

. . . the new

PurOlator micronic* Oil Burner Fuel Filter

✓ Fewer service calls for you!

✓ More dependable heat for your customers!

Made by the makers of famous Purolator* Micronic Automotive Filters—standard on America's quality cars—this new oil burner filter brings you installation and service advantages that put it at the top of its class!

Write for specifications and name of your nearest supplier.

*Reg. U.S. Pat. Off.

PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and Toronto, Ontario, Canada
Factory Branch Offices: Chicago, Detroit, Los Angeles

PUROLATOR
WORLD'S FINEST OIL FILTER

lower heat release, with proportional longer service life, with tubes arranged in staggered rows. Other boiler features include ample steam disengaging surface to insure dry steam, ample openings for ease of access and cleanability, davit flue-door suspension for easy one-man operation, and removable gas-tight rear cover plate.

The fully automatically-controlled Iron Fireman burner unit has a turndown of 5 to 1, burning either gas or oil. A volumetric oil control meters by volume the exact quantity of oil needed for varying loads, and an automatic oil-heating system keeps heavy oil at the correct temperature and viscosity for efficient combustion.

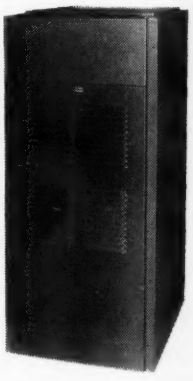
The entire boiler-burner unit is sealed for operation at higher than atmospheric pressure, thereby preventing air infiltration. No induced draft fan or natural draft stack are required. The Titusville-Iron Fireman power units are built in a complete capacity range from 37 hp to 363 hp, at normal SBI rating, with certified output ratings from 56 hp to 545 hp; heating boilers are built in sizes from 4250# EDR to 42,500 EDR at normal SBI steam ratings with certified output ratings from 6375# EDR to 63,750 EDR.

Made by: Titusville Iron Works Co., Titusville, Pa. and Iron Fireman Mfg. Co., 3170 West 106th St., Cleveland 11, Ohio.

Circle E15 on coupon

H. C. Little oilfired furnace Unit is Compact and Easy to service

THE NEW H. C. LITTLE U-AC oilfired upright winter air-conditioning furnace combines high heat output with compact design and easy serviceability with attractive appearance. The turn of a handle permits removal of the front panel and gives access to the burner, fan and limit control, transformer, oil valve and junction box. Swinging open a 4" cast-iron plate gives full visibility of the flame. The 10" blower is located on runners, so it can be readily slipped out for oiling or servicing.



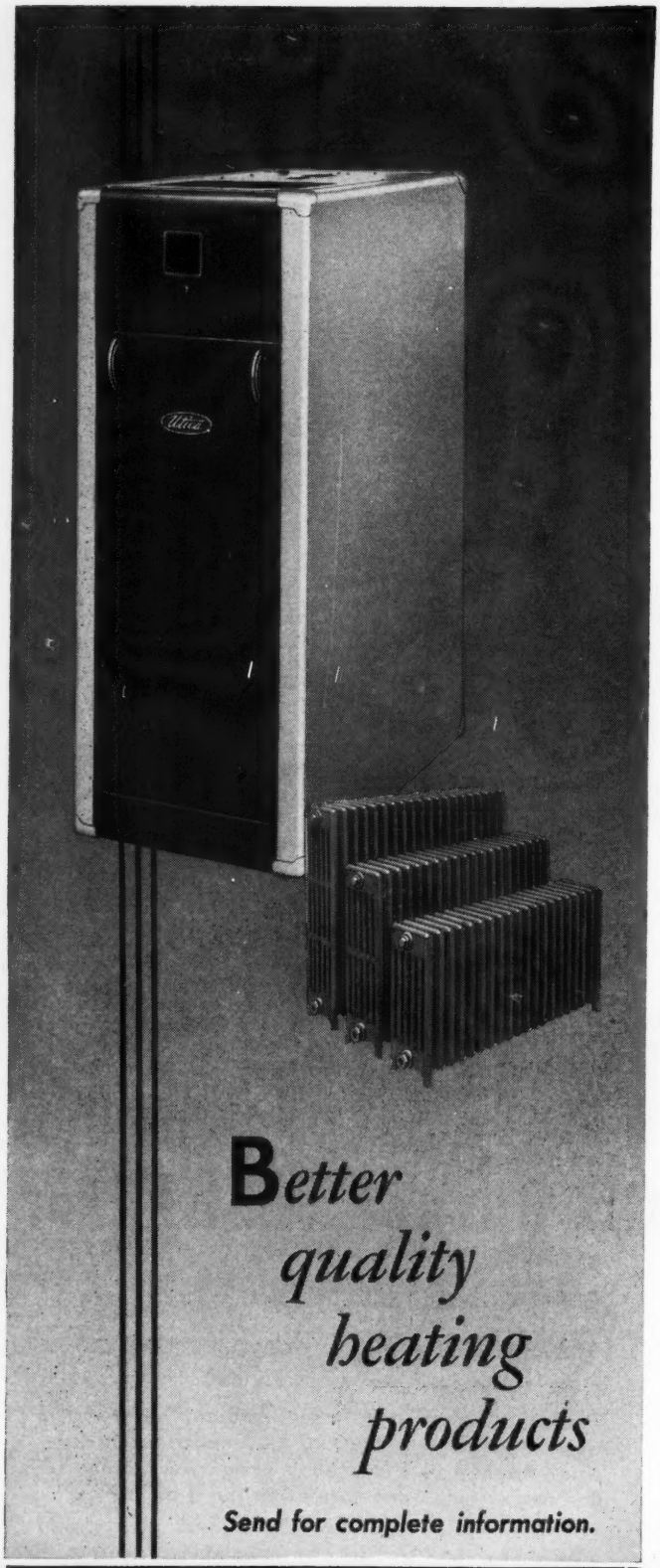
The U-AC measures 27½" w. x 30" d. x 60" h. The top heat discharge opening is 24" x 24". The return-air-opening cut in at the back at the base of the unit is 25" x 16". Optional top or front smoke pipe outlet is provided. The U-AC is rated at 82,000 Btu/hr. output and is listed by Underwriters' for 1" clearance on sides and back.

Made by: H. C. Little Burner Co., San Rafael, Calif.

Circle E16 on coupon

Series C Wysong all steel bending Rolls in five Sizes

FIVE SIZES of Wysong's Series C all steel 5" bending rolls are available: 36" x 3/16"; 48" x 8 ga.; 60" x 10 ga.; 72" x 12 ga.; 96" x 16 ga. The units are designed to produce uniform, commercially true cylinders and feature initial or



GET THE VERY BEST
COLE
AT THE VERY BEST PRICES!
COLE Standard Round Damper Control
Saves 10% to 35% fuel. The finest oil burner and stoker control available. Fully automatic. Stock sizes 6" to 36". Special sizes on order. Underwriters approved.
COLE Standard Round Gate Control
Low priced control for oil burners and stokers. Exclusive friction-free knife edge bearings. Stock sizes 6" to 12". Also available 4" to 6" sizes for stove and space heaters.
ALL STEEL CONSTRUCTION
UNIVERSAL SLEEVE OR ADAPTER
DRAFT ADJUSTMENT
KNIFE EDGE BEARING
COLE-SEWELL ENGINEERING CO.
2288 UNIVERSITY AVENUE • ST. PAUL 14, MINNESOTA

Install Fin-Tube Radiators Faster...

You save time and money on fin-tube baseboard radiator installations with GENERAL's "ready-to-install" Special-Tee Fittings. These 3-way reducing tees come to you with factory-tapped air vent opening . . . just screw in air valve, connect riser pipe and fin-tube — and the job's finished, that quick! No drilling, tapping, or bushings needed.

Why not standardize on these Special-Tees? It's a sure way to lower your costs and do a better, cleaner-looking job. They're available in Bronze Solder-Type, or in Cast Iron for both supply and return ends. (Fittings for supply end furnished without air vent opening.) Illustrated folder gives sizes and detailed information. Write General Fittings Co., 125 Georgia Ave., Providence 5, R. I.

GENERAL GF

TANKLESS AND INDIRECT

WATER HEATERS AND HEATING SPECIALTIES

ONE THIRD THE WEIGHT

From 95 to 31½ lbs. in the 6 gal. size. 20% smaller in size. But, more important, the new AllCopper Aqua-Heater has

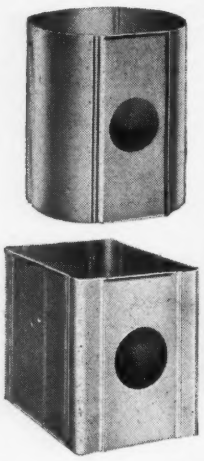
LARGER HOT WATER CAPACITY

Yes, Finned Copper Coils, operating on Aqua-Heater's famed counter-flow principle, have stepped up hot water capacity an additional 15%. You get smaller more compact size, less weight and *more* capacity in the new

ALL COPPER AQUAHEATER®
The Insulated Tankless Water Heater
GUARANTEED FOR 15 YEARS

Manufactured by
Joseph E. Lewis & Co., Inc., Baltimore 30, Md.
See your Plumbing Supply House

For Oil Conversions



your best bet is

PANELOX®

Heat-Resisting Stainless Steel

Combustion Chambers

In every way, Panelox combustion chambers are your best bet for conversion from coal to oil. They greatly increase heating area of the heat exchanger; provide faster heat transfer; eliminate override for more uniform control; save fuel.

Panelox chambers are easy to install—interlocking panels slide together without tools. They save freight—weigh just a fraction of other types. No breakage in shipment or handling. Easy to stock—panels nest together in compact cartons. Sizes for every shape of installation.

NOTE: Proper installation is important. Old refractory or fire brick must be removed. There must be absolutely no insulation or backfill between Panelox chamber and heat exchanger or furnace casing. At least 2" space must be allowed between chamber and heat exchanger.

Interlocking panels—quadruple thick at seams for extra strength and rigidity.

Individual panels slide together to fit a wide range of chamber dimensions.

Heat from Panelox is absorbed directly into walls of heat exchanger for fast heat transfer, maximum efficiency.

Write today for full details, sizes, prices!

STEFCO STEEL COMPANY

Heating Equipment Div. • Michigan City, Ind.

pinch type design and include accurate, machine-cut, steel gears which operate in a continuous bath of oil. Rolls are accurately machined and polished, with the power drive of each roll making it possible to form cylinders of small diameter, consistent with the diameters of the rolls themselves.

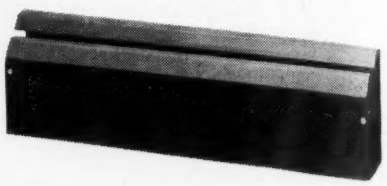
The drive unit consists of a slow-speed motor connected with V-belts to a flywheel, with a three-way drum control for forward, reverse or neutral operation. When the drop-end is lowered it lifts the top roll for removal of formed cylinders; when closed the drop-end serves as a bearing surface for the top roll.

Made by: Wysong & Miles Co., Greensboro, N. C.

Circle E17 on coupon

Roberts Air Guide is Baseboard for forced warm air Heating

AIR GUIDE baseboards have been designed for use with a forced warm air system and can be used for cooling applications during summer months. The unit's 2¼" by 5" duct diffuses either warmed or cooler air along the whole wall.



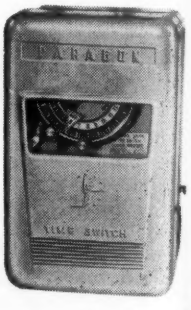
Air Guide sections are 5" high, 2¼" deep and 4' long. Made of heavy gauge sheet metal, the sections are joined easily with joining strips. Special pieces available block ends and make neat corner joints. Dampers are available for night shut-off or balancing and one single 4' section may be used as an individual diffuser.

Made by: S. R. Roberts Co., Marshall, Mich.

Circle E18 on coupon

Paragon's 3000 Series time Switch replaces well-known 300 Series

THE PARAGON 3000 series "Memory Master" time switch replaces Paragon's well-known 300 Series. "Torsion clutch" dial drive on the new model allows for free movement of dial, permitting manual check of "on-off" switching operations. Special dial trippers are provided which need only be loosened slightly for resetting; additional trippers can be added without removing the dial to provide for 16 operations per 24-hour period.



The simplified terminal block is designed to facilitate wiring and to reduce the possibility of connection errors. The timer mechanism is mounted on twin steel plates and the complete movement can be removed from the case by loosening one screw. When locked in, the movement is secure and "rattle-free." The unit is UL approved for 30 amps capacity at 120 or 240 volts.

Made by: Paragon Electric Co., Two Rivers, Wisc.

Circle E19 on coupon

dependable performance

Acme Electric transformers are a worthy component for the finest oil burners built. Their performance can be depended upon to provide year after year of trouble-free service. *Write for experimental sample.*

ACME ELECTRIC CORPORATION

Main Plant: 5010 Water Street, Cuba, New York

West Coast Engineering Laboratories: 1375 W. Jefferson Blvd., Los Angeles, Calif.
In Canada: 50 North Line Rd., Toronto, Ontario

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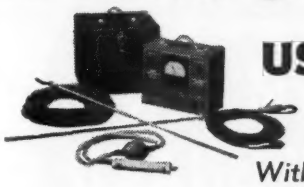
TRANSFORMERS

Save Money!!
on Service Calls

VECO



USE SCIENTIFIC METHODS

Without messy chemicals or fragile components, the VECO *all-electric* Complete COMBUSTION ANALYZER supplies extremely ACCURATE readings of CO_2, Temperature, and Draft on ONE DIAL — and in a matter of SECONDS!

PERMANENT CALIBRATION
No open wires - NO corrosion
Uses Sensitive, Temperature-Compensated
VECO GAS ANALYSIS CELL

Easy to operate
Dry cell battery powered
Portable - Light Weight - Rugged
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Model 140-C for Industrial use
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THERMISTORS — VARISTORS
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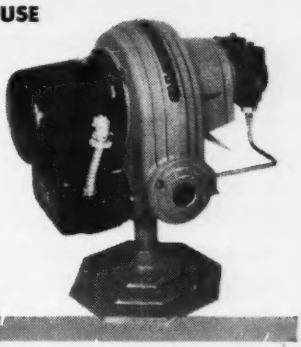
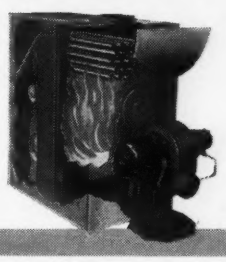
first choice for profit!

Radiant **OIL BURNER FOR RESIDENTIAL, COMMERCIAL, INDUSTRIAL USE**

A Complete Line . . . ¾-30 gals. Shell Head Models ½-10 gals. Unsurpassed burner performance . . . competitively priced . . . factory guarantee . . . easy installation . . . minimum servicing . . . low upkeep . . . nationally distributed . . . protected territories.

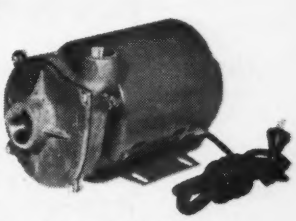


Radiant **OIL FIRED WINTER AIR CONDITIONER**



Superior in design . . . Economical in price — installation — operation. Available in four models: Low Boy, Suspended Unit, Hi Boy, Counterflow. Factory assembled and shipped complete.

Radiant **UTILITY PUMP**



Discharges waste water from laundry tubs, washing machines and other fixtures or appliances located below sewer outlets. For draining water tanks and swimming pools, circulating water in cooling systems, agitating and pumping water in displays, and in photographic laboratories, etc. All bronze construction, dynamically balanced impeller, rotary type seal.

Radiant **AUTOMATIC ELECTRIC SUMP PUMP**

For all Drainage Problems—boiler, elevator and grease pits, cellar and basement sumps, water transfer for irrigation. Permanent, silent, trouble free operation. All bronze construction . . . dynamically balanced impeller . . . perfect alignment for minimum parts wear . . . 3200 gals. per hour.

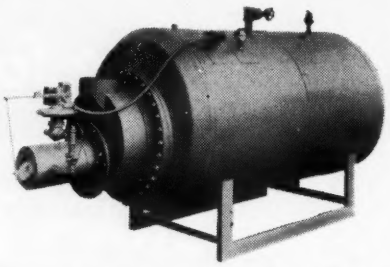
Write for complete literature on all Radiant Products

RADIANT UTILITIES CORP.
8815 18th Avenue, Brooklyn 14, N. Y.

RADIANT OIL BURNER

Mund high Capacity water heating Unit combines heating Element, storage Tank

MUND'S immersion 2-pass hot water boiler that combines heating element and water storage tank in one unit is available for commercial and industrial application in capacities from 250 to 5000 gph with either gas or oilfiring or combination. In addition to saving floor space, the heating element and water storage tank combined in one unit eliminates connecting piping and save times and costs in installation. The heating element alone may be installed in present water storage tanks.



The entire heating element is completely immersed in the water storage tank and is easily removed for inspection. A manhole at the rear of the unit permits accessibility to the interior of the boiler. The new water boiler is Fiberglas insulated throughout, enclosed in a metal outside cover.

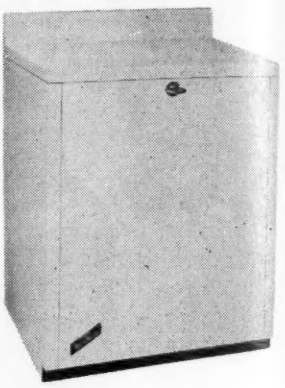
Other "Packaged Steam" units in the Mund line, range from 5 to 350 hp, available in Scotch fire tube, inclined water tube and other types.

Made by: Mund Boilers, Inc., 1600 No. Indiana St., Los Angeles 63, Calif.

Circle E20 on coupon

General Thrift-Master is table-top Boiler for kitchen Installation

GENERAL Thrift-Master Model T-100 table-top tubeless boiler provides 100,000 Btu/hr boiler outlet capacity and 3.5 gpm hot water. It is supplied completely assembled and packaged ready for installation or knocked-down for on the job assembly. All construction is approved ASME. When installed in line with kitchen appliances, this unit provides a cool work top.



Assembled Model T-100 for oilfiring consists of: insulated, steel plate tubeless boiler; water trim; combustion chamber; copper, tankless domestic water heater; flange-mounted, gun type oilburner with all controls; expansion tank; white enameled cabinet with white enamel or stainless steel insulated work top and splash back; circulator pump; dual control valve; flow regulator and draft regulator. All necessary piping assembled and installed. Smoke pipe locations are optional. Removable jacket front gives easy access to interior.

Made by: General Heating Products Co., 7426 State Road, Philadelphia 36, Pa.

Circle E21 on coupon

preferred by thousands . . . . .

The Thermo-Base system of baseboard warm air heating is preferred by thousands of architects, contractors and heating engineers. Sound design, careful engineering and quality materials are fast making Thermo-Base America's favorite. Cash in on this popularity by quoting Thermo-Base on every job.

Thermo-Base
WARM AIR BASEBOARD HEATING

GENTLE WARMTH FROM CEILING TO FLOOR
Installed around the outside walls, Thermo-Base Units eliminate drafts, hot spots and frigid fringes — giving equal distribution of humidified and filtered air.

FREEDOM FOR FURNITURE ARRANGING
Thermo-Base gives every inch of space the same "gentle warmth" . . . there are no blasts of heat or uncomfortable cold drafts to interfere with the arrangement of furniture. Draperies and walls stay clean longer.

IDEAL FOR AIR CONDITIONING
The gentle distribution of cool air through Thermo-Base makes it the perfect system for summer cooling.

THE LEADING JOBBERS IN YOUR TERRITORY WILL BE HAPPY TO PROVIDE COMPLETE DETAILS — OR WRITE TO

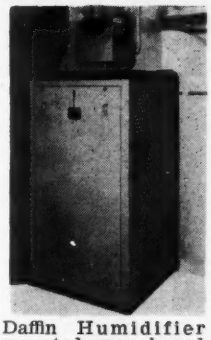
THERMO-BASE Division, Gerwin Industries, Inc., Michigan City, Indiana

with MECHANICAL action you install it... FORGET it!

The DAFFIN model 550

PLENUM HUMIDIFIER

- Positive Output — 3.9 pints per hour, sufficient for the average home.
- Injects water vapor directly into warm air stream from furnace.
- Rust-proof alloyed copper construction for years of dependable service.
- Furnace cycle automatically controls humidifier.
- Saves 8 to 10% on annual fuel costs.



Daffin Humidifier mounted on packaged heating unit.

Daffin MANUFACTURING COMPANY
1211 N. Prince St., Lancaster, Pa.

CLIP AND MAIL

Cash in on the lower installation costs of new FORCED WARM AIR BASEBOARD

Get the VECTAIRE Story

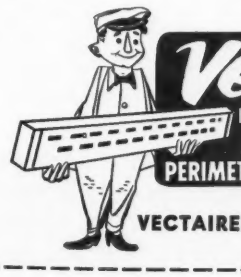
Vectaire installation goes in fast, with big savings in labor. Requires no screws to assemble—eliminates most cutting to length. Uses inexpensive small round ducts costing as little as 25% of other systems, with special Vectaire boot air connection. Exclusive Vectaire charts translate simplified data into necessary installation facts in less than one minute.

☐ Rush Details New Vectaire Factory Package
☐ Figure Enclosed Plans and Return Without Delay
☐ Please Have Your Salesman Call

Name .....

Address .....

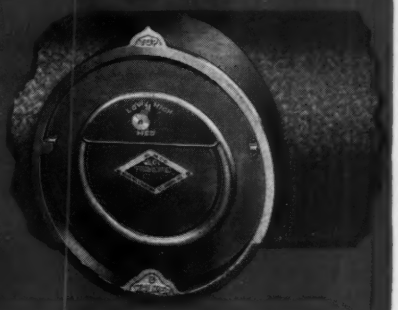
City ..... Zone .... State .....



Vectaire BASEBOARD
MODERN, NO-DRAFT PERIMETER WARM AIR HEATING

VECTAIRE MFG. CO., Melrose, Mass.

Only WALKER Makes a Complete Range of Sizes of DRAFT REGULATORS



From Models for Trailers to Models for the Fairlington Project

WALKER FUEL-SAVER AUTOMATIC DRAFT REGULATOR

● Fairlington Project at Washington, D. C., the nation's largest housing project, saves fuel with Walker Ball Bearing Type Industrial Draft Regulators. This widely heralded application is only one of thousands throughout the range of heating applications. Twelve Million sales speak for themselves... and give proof of Walker design, craftsmanship, and engineering. You can be sure that there is a Walker Fuel-Saver for your application ...and that it will provide fool-proof and long-lived "performance as perfect as possible."

SEND FOR CATALOG
Twenty pages show all types, sizes in full line. Applications and installations described. A valuable handbook FREE, if you write...

WALKER MFG. & SALES CORP.
1750 PENN ST.
ST. JOSEPH, MO.

Check These 9 POINTS

1. **EASE OF ADJUSTMENT** with exclusive patented pointer and calibrated dial.
2. **BOX TYPE HINGES** with sealed protection against corrosion, dirt and dust.
3. **BALANCE PLATE**—scientifically designed to maintain proper balance.
4. **SPECIFIC PIPE SIZES** — insure correct capacity for every type of installation.
5. **ALUMINUM FRAME**—rigid, long lasting.
6. **EASE OF INSTALLATION**—collar and stub for quick attachment.
7. **ARMCO ALUMINIZED STEEL**—for heat and corrosion resistance.
8. **FACTORY SET** — for "performance as perfect as possible."
9. **FREE FLOW** of air in unrestricted inside area.

EXCLUSIVE! PATENTED!
Pointer and Calibrated Dial assures quick and easy adjustment of premium quality Walker Fuel-Saver Automatic Draft Controls.

NEW WALKER VENTURI-TOP CHIMNEY CAP
is winning approval on more and more installations. Proved to be ideal in design and construction to correct insufficient draft and stop down draft... and to solve ventilating problems. Sizes from 3" to 8" ready for immediate delivery.

No Greater Value Ever Than These Complete* Fuel Oil Trucks!

IMMEDIATE DELIVERY ANYWHERE in the U. S. A. - Trades accepted - Terms arranged

1000 GALLON — 2 compartment tank; fully skirted, top shrouding; 1½" ticket printer (your choice); 125' 1¼" hose and electric reel; 1954 Dodge 1½ ton with 7:50 x 20 8 ply tires; complete $4,078.00
1300 GALLON — 2 compartment tank; equipped same as above; 1954 Dodge 2 ton with 8:25 x 20 10 ply tires, complete $4,488.00
1600 GALLON — 2 compartment tank; equipped same as above; 1954 Dodge 2½ ton with 9:00 x 20 10 ply tires; complete $5,286.00

1750 GALLON — 2 compartment tank; equipped same as above; 1954 Dodge 2½ ton with 9:00 x 20 10 ply tires; 19000 lb. G.V.W. chassis; complete $5,478.00
2100 GALLON — 2 compartment tank; equipped with 2" ticket printing meter (your choice); 125' 1¼" hose and electric or "Fluid Drive" reel; 1954 Dodge 3 ton with 10:00 x 20 12 ply tires; complete $6,882.00
2450 GALLON — 2 compartment tank; equipped same as above; with 100% air brakes; 1954 Dodge 3½ ton with 11:00 x 20 12 ply tires; complete $7,916.00
3300 GALLON — 1954 Dodge 4 ton; specifications on request; complete $11,890.00
REAR INSTALLED EQUIPMENT and VARIATIONS IN BASIC SPECIFICATIONS AVAILABLE IN ALL SIZES. OTHER TANK SIZES, PRICES ON REQUEST. Prices include all federal taxes. Consideration given to state and local requirements.

* *Includes chassis, tank, pumping and metering equipment*

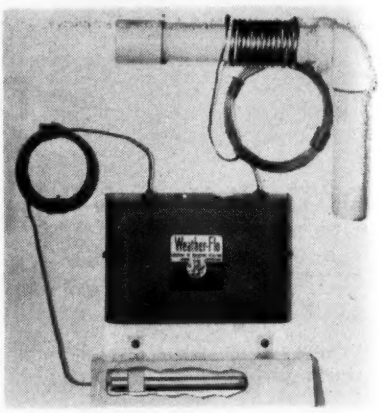
Decker Brothers

Send for FREE Catalog FO

300 Lincoln Avenue
HAWTHORNE N. J.
Hawthorne 7-2100-2101-2102

Weather-Flo substitutes copper Tubing for Bulb to make Installation simpler

THE WEATHER-FLO indoor-outdoor building heat controller was developed by Automatic Devices with an outdoor thermostatic bulb to measure weather conditions and reset a "system" thermostat that regulates the temperature of the water being circulated as the outdoor weather changes. To cut installation costs, a six foot length of flexible soft copper tubing has been substituted for the usual "system" bulb on the new control. This makes it possible to install the unit on an existing heating system without draining the system or cutting into the piping. The flexible tubing is simply wrapped around the pipe to accurately measure the temperature of water being circulated.



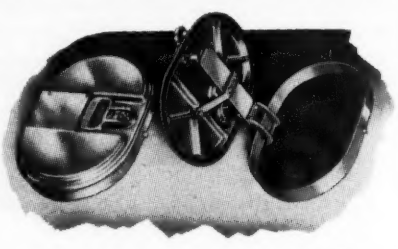
Constantly circulating water at "Weather Modulated" temperatures eliminates peaks and valleys of temperature indoors, keeps floors warmer and heats the last "hard to heat" radiator just as well as the near radiator. It eliminates gurgling air noises and noises of expanding pipes.

Made by: Automatic Devices Co., Inc., Western Springs, Ill.

Circle E22 on coupon

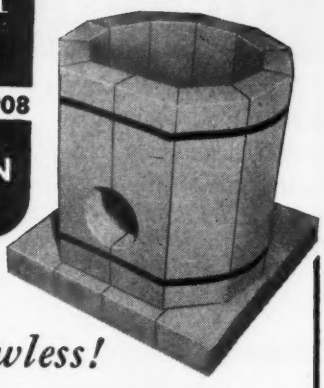
S & J truck tank Dome has built-in safety Features

A NEW TRUCK tank dome of improved design now being manufactured by Shand & Jurs has a very low silhouette, is extremely rugged yet light in weight. One feature is the safety catch, which releases internal pressure before full opening of the cover can be effected. After release of internal pressure, handle must be turned an additional 90° to open cover. S & J's dome cover utilizes the normal vacuum and pressure vents, with an emergency vent spring loaded to protect compartments from excessive internal pressure. When dangerous conditions are passed it will restore itself to safe operating condition ready for any emergency which might arise.



The S & J dome, Fig. #16000, weighs 19 lbs. net and overall height including steel base ring, which extends ½" above tank compartment, is only 3-1/16". The cover is 1-3/16" high, making the total height in silhouette only

GEM
SINCE 1908
COMBUSTION CHAMBERS



Tough
. . . and flawless!

GEM Combustion Chambers are die formed from hi-grade lightweight insulating materials and then kiln-fired to withstand 2600° F temperatures . . . that's why they're "tough" and give years of "flawless" performance. GEM's construction guarantees high combustion efficiency and excellent performance with high or low pressure burners.

The universal design of GEM Chambers enables fast and easy installations in any boiler or furnace. The scientific "float packaging" used assures maximum protection from breakage. Enjoy GEM's many advantages on your jobs—Write Today!

Special designs to meet furnace and boiler manufacturers specifications are our specialty. Inquiries are invited for prompt free estimates.

GEM CLAY FORMING CO.
Sebring, Ohio • Phone: 8-6141

Mfg's. of RADIANTS • BACKWALLS • STOVE LINERS
COMBUSTION CHAMBERS • INSULATING BRICK • ELEMENTS

Mr. Dealer:
Are You Getting the MOST from Your Franchise?

Mr. Dealer, here's a real challenge. Investigate the Anchor franchise. We bet you'll agree that you'll say, "It's Anchor for me".

The Anchor franchise actually helps pay your income tax. Amazing? Yes—but absolutely true! Combine Anchor's great line of products with the Anchor franchise and you're due for *more* sales with *higher profits* than ever before.

A COMPLETE FURNACE LINE
HI BOY MODELS
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FOR VAPORIZING OIL
FOR HI-PRESSURE OIL
FORCED AIR TYPES
GRAVITY TYPES
From 59,200 to 148,000 BTU

Write Today for Complete Details

ANCHOR DIVISION
STRATTON & TERSTEGGE CO., INC.
P. O. BOX 311 NEW ALBANY, IND.

$25 for every driver's story published

One Man–One Day
11,273 gallons
61 deliveries

Chauffeur John Consentino with his daughter Rosemarie.

ON January 8, 1953, John Consentino delivered 11,273 gallons of fuel oil in 61 deliveries to residential 275 gallon basement tanks.

Seems one of the Booma-Breed drivers was ill and chauffeur Consentino took on his delivery area in addition to his own. He left the Booma Breed plant at 7:45 A.M. to make 47 deliveries. He was driving a 2000 gallon truck capable of 60 to 65 g.p.m. pump speed. He could load at 2 points: Salem and Danversport. Deliveries were in eight towns: Salem, Peabody, Danvers, Beverly, Hamilton, Wenham, Beverly Farms, Manchester.

In the afternoon, he telephoned the dispatcher and was given 14 more deliveries. This totalled 61 deliveries for the day when he garaged his truck at 5:50 P.M.

All deliver[illegible] 275 gallon inside cellar tanks except for

This is John Consentino's story* . . . what's your story?

We can all learn from each other. How about sharing your experience? Maybe you, as a driver, just cracked a tough delivery problem, or solved a certain emergency situation. Perhaps you have a special way of saving time and money for your company.

Tell us your story. Scully Signal Company will pay you $25 if it publishes your story in this magazine during 1953 or 1954. Write as many as you want. Don't worry about how you write them. It's the facts that count. All stories received will be acknowledged and will become the property of this company. None will be returned to the sender. Mail yours now to Frank Scully, President, Scully Signal Company, First St., Cambridge, Mass.

*As told by John Stevens, heating oil manager, Booma Breed Co., Inc., Lynn, Mass.

ADDED FEATURE in Midget 2 & 3 Way Solenoid Valves

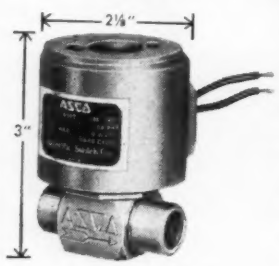
ASCO

Explosion-Proof

protection for

Personnel, Production & Plant

ASCO Midget Valves are now available with explosion-proof housings, designed in accordance with Underwriters' recommendations for use in Class 1, Group D hazardous locations. These Bulletins 8262 & 8314 ASCO Valves with the Explosion-Proof Solenoid Enclosure (they're also water tight) may be just what you need. Classed as "small" valves, they are doing a big job in the automatic and remote control of air, gas, water, light oils, refrigeration and other fluids.



Bulletin 8262 Two-Way ASCO Solenoid Valves (Illustrated) can be obtained with by-pass and metering devices. Valves can be installed in any position. Bulletin 8314 Three-Way Valves can be applied to any 3-way valving requirement regardless of flow directions or pressure application points; no change of springs or other adjustments are necessary. These valves can also be mounted in any position and will give positive tight shut-off.

BULLETIN 8262

2-Way Valve (Normally Closed)**

(Available for all commercial and industrial voltages)

Body Material		Brass or Stainless Steel			
Pipe Sizes (inches)		1/8		1/4	
Orifice Diameters (inches)		1/16	1/8	5/32	3/16
Maximum Pressures lbs./sq. in.	A-C	300*	130	90	60
	D-C	250	70	50	30

*Available 1000 psi in stainless steel; 500 psi in brass.
**Also available normally opened.

BULLETIN 8314

3-Way Valve

(Available for all commercial and industrial voltages)

Body Material		Brass or Stainless Steel	
Pipe Size (inches)		1/8	
Orifice Diameters (inches)		3/64	3/32
Maximum Pressures lbs./sq. in.	A-C	125	45*
	D-C	50	25*

*Pressures slightly lower for liquids.

Since 1888 ASCO Engineers have specialized in the constantly expanding field of Electromagnetic Controls. They have pioneered many new developments and have revolutionized many of the older concepts of automatic controls. Industry looks upon ASCO as one of the leaders in Electromagnetic Controls. Why not let our engineers help you with your problem whether it involves control on a machine of any kind you are designing or control of liquid or gas in your plant?

We also manufacture other types of Electromagnetic Controls including Automatic Transfer Switches, Remote Control Switches, Contactors, Relays and complete Control Panels.

Write for free pamphlet "Small Solenoid Valves."

ASCO Solenoid VALVES

Automatic Switch Co.

385-F LAKESIDE AVENUE · ORANGE, NEW JERSEY

1-11/16". The design protects against loss of product through dome in event of tipping or rollover by sealing off escape of product through the vent when truck tips more than 30°.

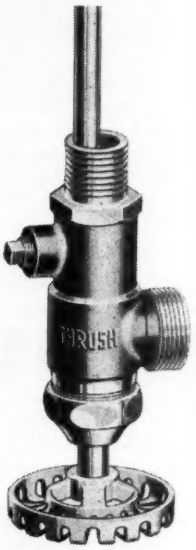
The oval opening of the dome cover is 15⅝" by 11⅛" providing adequate space for filling or access to compartment. This eliminates dismantling of dome to enter compartment.

Made by: Shand & Jurs Co., Carlton & Jurs Sts., Berkeley, Calif.

Circle E23 on coupon

Thrush vacuum Breaker makes draining of expansion Tanks easy

THRUSH TANK DRAIN, combining a vacuum breaker and drain valve in one fitting, has been developed to facilitate the draining of any hot water expansion tank. The device comes with ½" thread in two sizes—No. 12 for 12" diameter tanks and No. 14 for 14" diameter tanks.



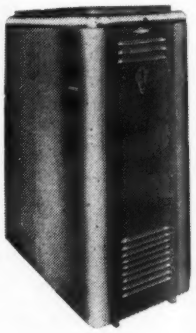
In operation the tank drain, which is installed right in the drain tapping, works by closing the stop valve, opening the tank drain and removing pipe plug. Air enters through the tube and the tank drains through hose connection.

Made by: H. A. Thrush & Co., Peru, Ind.

Circle E24 on coupon

Berger automatically-fired Units for forced air or gravity Systems

A LINE of Berger automatically-fired furnace units are available in models for forced air or gravity heating, oil-fired capacity range from 105,000 to 189,000 Btu/hr. A feature is a long flue passage with frequent restrictions and expansions of flue gasses, while in the return air chamber a secondary heat exchanger preheats the air.



Forced air units have large blowers and disposable filters. A steel insulation shield prevents heat from escaping into the basement and traps radiant heat. Eight oilfired models are available.

Made by: Berger Furnace Mfg. Co., 5920 Centre Ave., Pittsburgh, Pa.

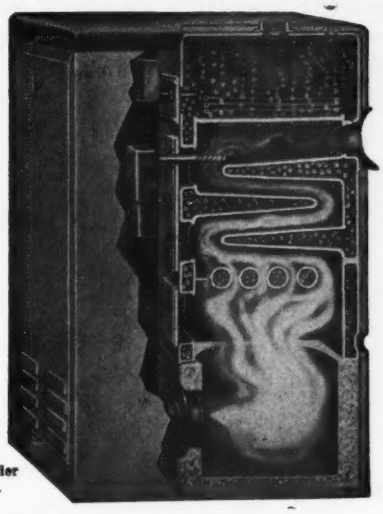
Circle E25 on coupon

Mayflower compact Lo-Boy Furnace equipped with gun type Oilburner

MODEL "OL-75" oilfired Lo-Boy furnace is factory assembled and partially wired. Assembled dimensions are

Steel HEATING UNIT

5 YEAR GUARANTEE AGAINST LEAKS



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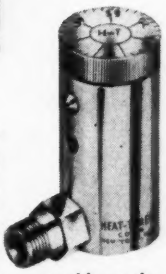
A FEW DESIRABLE EXCLUSIVE FRANCHISES ARE STILL AVAILABLE

Magic-HEAT

Product of **MARIETTA METAL PRODUCTS CORPORATION**
MARIETTA, PENNA.

add a "PLUS" to your heating installations . . . build good will

with **HEAT-TIMER**
GUARANTEED AIR VALVES



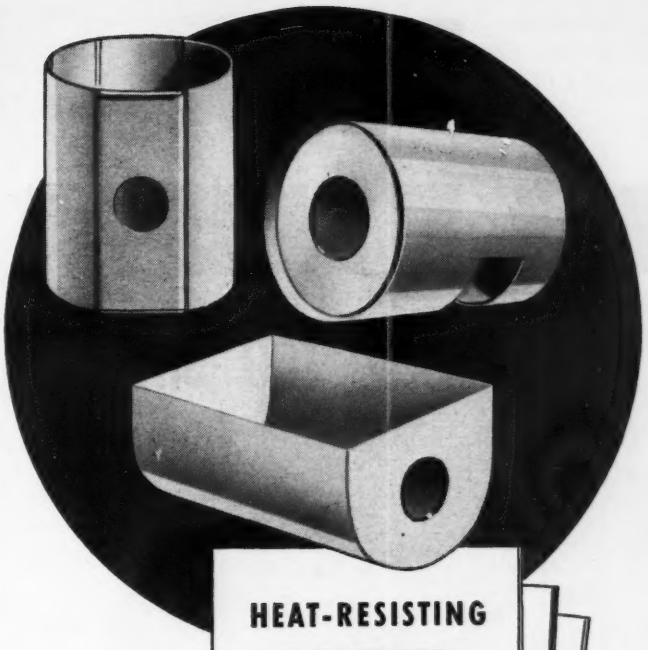
HEAT-TIMER **THERMOVALVE**
makes it possible to dial for precise temperature desired in each room. Has built-in thermostat. Will work on any 1-pipe steam system without interfering with existing controls. Noiseless operation. Angle or straight shank. **List $3.95**

precision-made; long-life; brass, chromeplated.

HEAT-TIMER **VARIVALVE**
brings the heat quickly to "hard-to-heat" radiators, mains and risers of 1-pipe steam systems. This quick-vent valve has venting orifice, variable 0" to 5/16". Angle or straight shank. **List $3.45**

HEAT-TIMER CORP'N
657 Broadway, New York 12, AL 4-5380

Mfrs. of HEAT-TIMER Electronic Controls, Thermovalves, Varivalves, Motorized Valves; Smoke-Eye Smoke Alarm; Fire-Chief Fire Alarm and other outstanding products.



HEAT-RESISTING
STEEL
SHEARED TO SIZE
for your
COMBUSTION CHAMBERS

If you are using or contemplating the use of heat-resisting stainless steels for combustion chambers for oil burner furnaces, we are specialists in producing these types of steels.

Whether you are a large or small user of these steels, our facilities can offer exceptional service by especially shearing to your specified combustion chamber blanks, or multiples thereof.

Write us for additional information

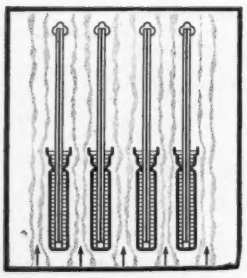
ENGINEERING B-W PRODUCTION

Ingersoll STEEL DIVISION
BORG-WARNER CORPORATION
310 South Michigan Avenue, Chicago 4, Illinois
Plant: New Castle, Indiana

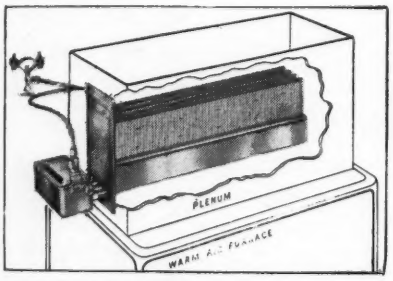
NO PLENUM

too small for the Convector Humidifier

Look! No flat bottom to restrict warm air flow. Individual water troughs (only 3/8" thick) spaced 1" apart. Means 30% more evaporation area, 60% less plenum restriction. Perfect for small-plenum, short-cycle warm air furnaces . . . conventional, counterflow and year around air conditioning units. Made of copper and brass, nothing to corrode.



Warm air flows freely between evaporation pads, picks up 30% more moisture, isn't blocked.



To install, just cut opening in plenum and make connections. 13 sizes; capacities 1 to 10 gallons of water per day.

60% less air restriction in plenum

30% more evaporation area

50% less installation time

See your jobber or write

MAID-O'-MIST, Inc.
3217 NORTH PULASKI ROAD
CHICAGO 41, ILLINOIS

MAID-O-MIST Inc.
HEATING SPECIALTIES

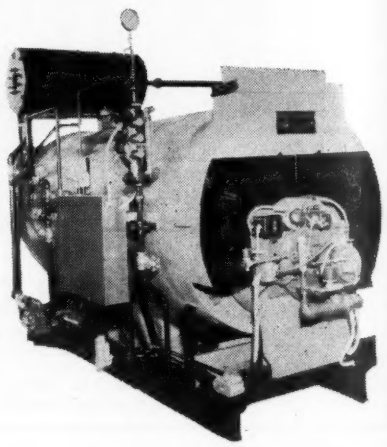
21½" x 40" x 48" making for ease in handling through doors and basement entrances. This unit, for use in the small and medium sized homes, is available for oil in 75,000 Btu output. The combustion chamber is enclosed in a steel tray to permit pre-assembly of firebrick and mounting of burner after which assembly is installed.

Made by: Mayflower Air-Conditioners, Inc., East 7th at Duluth Ave., St. Paul 6, Minn.

Circle E26 on coupon

Hoffberger announces packaged, oilfired boiler-burner Unit

HOFFBERGER packaged and oilfired boiler-burner unit is complete, consisting of the boiler, oilburner, panel board and mounted trim. Boiler feed equipment and induced draft fan equipment and induced draft fan are optional. Capacity range of the 16 sizes available extend from 12 to 600 boiler hp, pressure range from 100 to 150 psi. The burner can be used with any grade oil from No. 2 to No. 6.



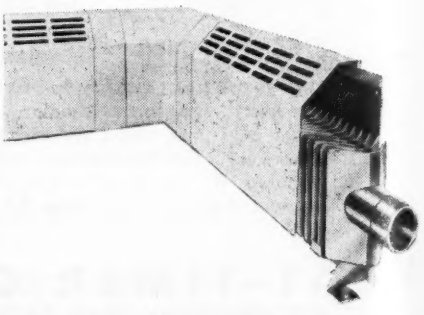
Offered for sale through dealers the unit employs a Scotch-Marine boiler and features welded seams, proportioned and balanced boiler tubes. Steam outputs per hour for the units begin at 420 lbs. for the smallest size and reach 21,000 lbs. for the biggest model.

Made by: C. Hoffberger Co., Monument at Forrest St., Baltimore 2, Md.

Circle E27 on coupon

Slant-Fin baseboard heating Units for steam and hot water Heating

AN ALL-STEEL baseboard radiator for residential heating features a large diameter 1¼" heating element. Patented "V" shape fin construction is designed to provide more heating surface per fin. Resilient notched flange eliminates snapping and buckling of fins and the Slant-Fin process of force-fitting a bond between fins and pipe results in permanent heat transfer. Elements are available pre-cut and threaded



Requiring no drilling or screws, the front cover and

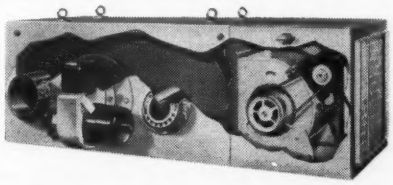
accessories snap on or telescope and the floor mounted brackets assure quick installation. The baseboard, completely installed, blends well with any interior, measures 8¾" high from the floor and projects 2⅛" from the wall.

Made by: Slant-Fin Radiator Corp., 5113 Second Ave., Brooklyn 32, N. Y.

Circle E28 on coupon

Williamson Flo-Warm oilfired Furnace is horizontal Unit for basementless Homes

THE WILLIAMSON horizontal Flo-Warm oilfired furnace is recommended for modern, basementless-type homes. The unit is 66½" wide, 25" deep and 22" high. Its compactness makes possible installation in a crawl space beneath the home, in a small utility room or even in a small attic. Heavy eye-bolts are provided for suspending the furnace from the ceiling. The unit also can be supported on a ceiling joist or mounted on a separate foundation.



Standard equipment includes constant ignition, pressure atomizing oilburner; hand-welded steel oil heat exchanger; corrosion-resistant, stainless steel combustion chamber; float-mounted "squirrel-cage" blower; spun glass, treated filters; barometric draft regulator and controls. Furnace is completely factory assembled, except for oilburner and controls. Input and output ratings are 105,000 and 84,000.

Made by: The Williamson Heater Co., 3530 Madison Road, Cincinnati 9, Ohio.

Circle E29 on coupon

Excelsior joist Lining covers Spaces to make cold air Returns

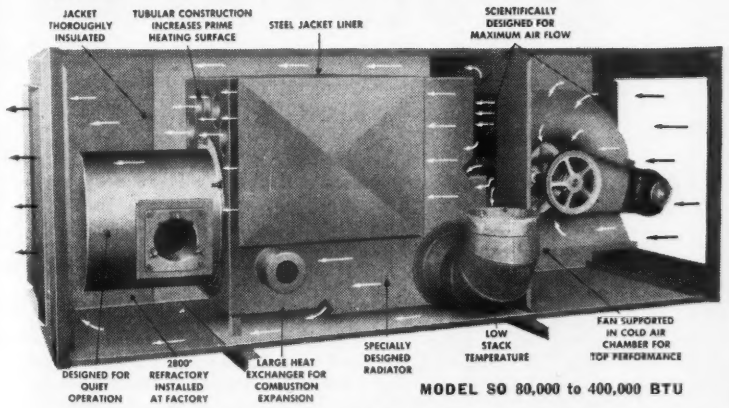
AN IMPROVED JOIST LINING is aluminum coated on both sides by special process for smooth finish and moisture resistance. It is available in 16½" and 33" widths to enclose either one or two joist spaces into cold-air return ducts.

Nailed or stapled — application can be done by one man. A Pittsburgh lock at one end makes a finished joint between sheets and facilitates application. Each width is supplied in random lengths of 26 to 30 inches and pack 50 linear feet to the carton.

Made by: Excelsior Steel Furnace Co., 118 S. Clinton St., Chicago 6, Ill.

Circle E30 on coupon

Wondaire ...OUTSTANDING DESIGN, PERFORMANCE and SALES!

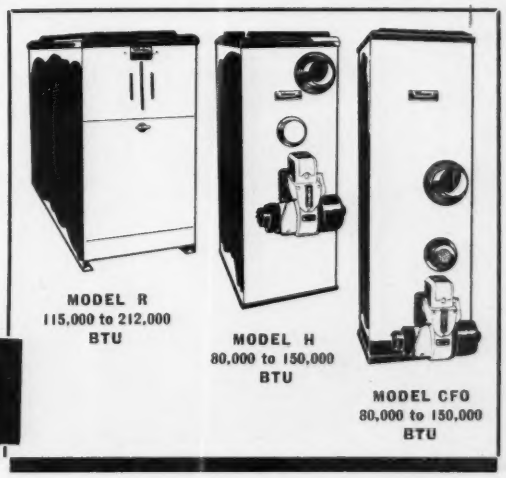

JACKET THOROUGHLY INSULATED
TUBULAR CONSTRUCTION INCREASES PRIME HEATING SURFACE
STEEL JACKET LINER
SCIENTIFICALLY DESIGNED FOR MAXIMUM AIR FLOW
DESIGNED FOR QUIET OPERATION
2800° REFRACTORY INSTALLED AT FACTORY
LARGE HEAT EXCHANGER FOR COMBUSTION EXPANSION
SPECIALLY DESIGNED RADIATOR
LOW STACK TEMPERATURE
FAN SUPPORTED IN COLD AIR CHAMBER FOR TOP PERFORMANCE

MODEL SO 80,000 to 400,000 BTU

Expansion of plant facilities enables us to add a limited number of jobbers and dealers to our lists. Wondaire, without a doubt, is the world's finest horizontal-type oil or gas fired furnace. Sizes from the smallest to the largest are available including: 80,000; 95,000; 115,000; 150,000; 225,000; 300,000 and 400,000 BTU. —Specially-designed tubular construction provides highest efficiency. Shipped completely assembled — all parts standard and nationally known. Become a Wondaire jobber or dealer NOW!

SELL TROUBLE-FREE, OIL FIRED HEAT

Cash in on the tremendous demand for horizontal-type furnaces —write for attractive dealer or jobber sales plans. Increased production brings better delivery—and you can meet or beat all competition for practical, well-made, efficient furnaces. Domestic furnaces have same outstanding features, high quality construction and efficient performance as the horizontal-type units. Write, wire or phone **today** for complete details!



MODEL R 115,000 to 212,000 BTU

MODEL H 80,000 to 150,000 BTU

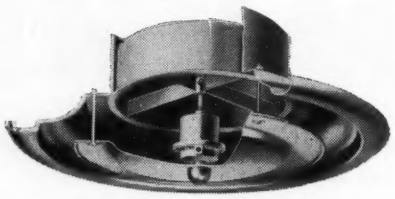
MODEL CFO 80,000 to 150,000 BTU

COX MANUFACTURING COMPANY
RIDGEVILLE, INDIANA
EXCLUSIVE MANUFACTURERS OF WONDAIRE DESIGNED FURNACES

WORLD'S FINEST OIL OR GAS FURNACES

Connor Kno-Draft ceiling Diffuser provides thermostatic Control

A PNEUMATIC MOTOR, remotely controlled by a thermostat, regulates the movement of the damper and hence air volume in a modification of a Connor Kno-Draft ceiling diffuser for airconditioning systems serving zones having variable heat loads.



The Kno-Draft diffuser is adapted to automatic control of volume at the point of discharge because the sleeve damper moves up and down without enlarging or constricting the neck area. Regardless of damper position the performance of the diffuser is unaffected. Air quantity alone is changed, not air pattern or effective area of diffusion.

Made by: Connor Engineering Corp., Danbury, Conn.

Circle E31 on coupon

Lee-Vine fin-tube Radiators feature extruded conductive Collar

A NEW TYPE of fin-tube radiators for steam or hot water, high or low pressure heating systems has been developed by Lee Vine. Special design feature of the heat-distributing element is the fin with extruded conductive collar which provides unbroken contact with the steel pipe, throughout its entire circumference and length, to utilize all possible heat. The radiators are recommended for industrial, commercial and residential use. Application advantages claimed are ease of installation, compactness and high heating efficiency.

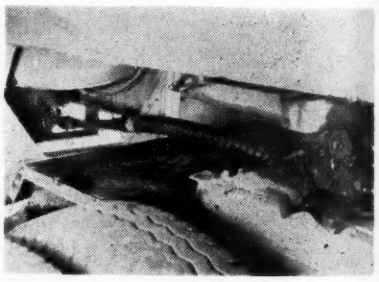
The fin-tube radiator is available in stock lengths of 6, 8, 10 and 12 feet, and also is supplied in 6-inch increments from 2 to 12 feet. Each end of the pipe extends 2½ inches, and both ends are threaded or chamfered.

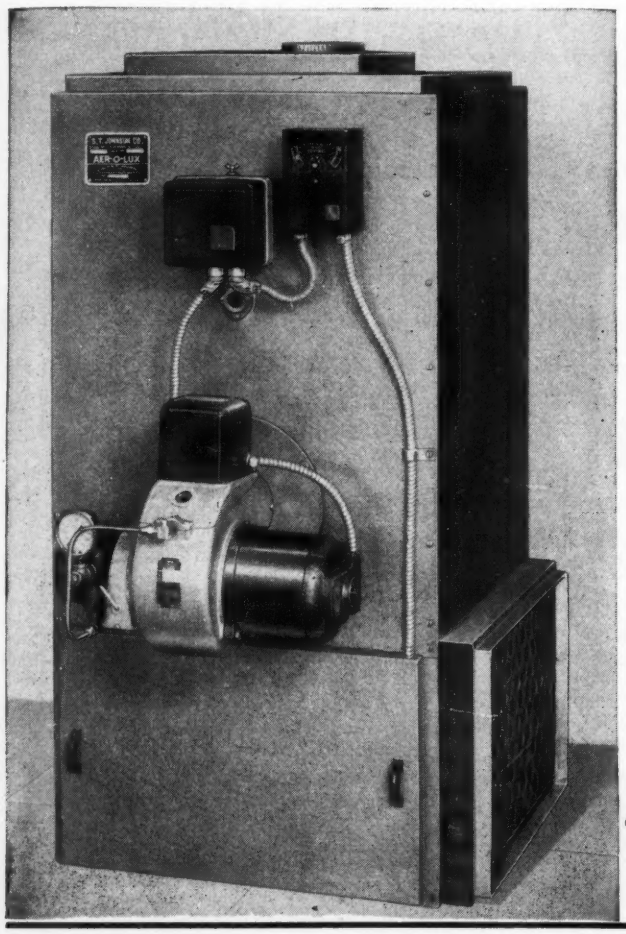
Made by: Lee Vine Fin-Tube Radiator Co., Inc., 12 Fair St., New Haven, Conn.

Circle E32 on coupon

Stow power Take-off combines flexible Shaft, telescopic Bar and Tube

A NEW STOW, low cost, power take-off drive consists of a 1¼" flexible shaft in combination with a square telescopic bar and tube. It is simple to install and eliminates power couplers. The telescopic rod not only acts as a simple fool-proof quick - disconnect coupling, but it also takes care of





Another "Winner" in the line-up of Johnson Burners!

AEROLUX 65-U

. . . a super-efficient new oil-fired **WARM AIR HEATER**

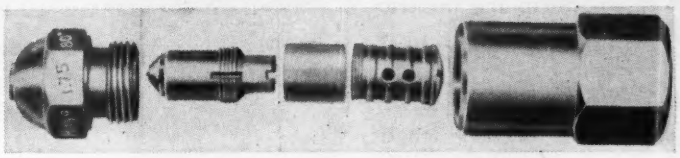
This new model of Johnson's Aerolux will do an exceptionally economical job of heating homes and buildings having a heat loss of 50,000 to 65,000 BTU per hour. It is powered by the famous Johnson Bankheat Burner . . . one of the most efficient pressure-atomizing-type burners ever manufactured. Operation is completely automatic.

For installation in close quarters (even in a closet on the main floor) the Aerolux 65-U is exceptionally adaptable as it measures only 25" square on the floor and 52" high. It is listed by Underwriters Laboratories for Less than Standard Clearances and carries Commercial Standards Label CS-75. To reduce installation costs the Aerolux 65-U is completely assembled with all controls in place before shipping.

You can install the Aerolux 65-U with confidence that it will give years of dependable service . . . that operating costs will be low . . . and that maintenance costs will be surprisingly small. Ask your nearest Johnson Dealer or write to us direct.

.....Johnson Oil Burners....

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
Church Road, Bridgeport, Pennsylvania



PERFECT PERFORMANCE,

ACCURATE CAPACITY RATINGS AND SPRAY ANGLES

ARE THE NATURAL RESULTS OF OUR

PRECISION WORKMANSHIP

in the nozzle field

PRECISION MEANS *Hago!*

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In Canada—Richardson Distributors, 15 Brule Gardens, Toronto

EASIER to INSTALL

Eliminate Humidifier Service Calls

The revolutionary new Auto-Flo "100" Humidifier requires no servicing other than an occasional cleaning of the pan and the yearly replacement of the plates. A large size orifice replaces the float valve and there are no parts to stick, wear or clog up. Evaporator plates are equipped with drain clips to eliminate any possibility of dripping.

THIS IS *Auto flo's* Stainless Steel **DRAIN CLIP** that Prevents **WATER DRIP**

One Year Factory Guarantee on all parts

AUTO-FLO CORP.
13526 Fenkell Ave. Detroit 27, Mich.

We'll prove you can save time and money with new FORCED WARM AIR BASEBOARD

...the thrifty RADAIR way!

Radair **BASEBOARD** *for perimeter warm-air heating and cooling, with exclusive* **CONTROLAIRE**

Rush details new Radair Factory Pkg. ☐
Figure enclosed Plans-return at once ☐
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Firm Name .....
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126 WEST EMERSON ST., MELROSE, MASS.
Sales Representatives for
RADAIR MANUFACTURING CO., MELROSE, MASS.

the change in length when the tractor-trailer is jackknifed. A universal joint is used between the pump and the telescopic rod so that the flexible shaft does not have to be bent so severely.

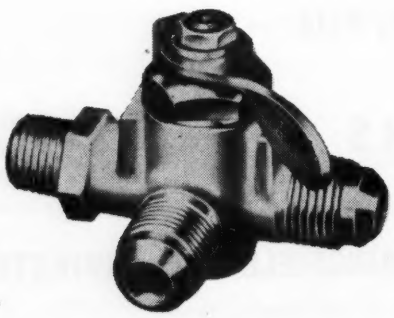
By using different length extension bars at the power take-off end, the fleet operator may use the same length flexible shaft for his entire fleet so that a few shafts may be stocked for quick replacement.

Made by: Stow Mfg. Co., 443 State St., Binghamton, N. Y.

Circle E33 on coupon

Two-tank Kantleak Valve announced by Anderson Brass

ANDERSON has added a new valve to its "Kantleak" line—the 2-tank "Kantleak" valve, manufactured from brass forgings for maximum service on fueloil line installations. The solid bottom and packed top design gives assurance of trouble-free operation under all conditions.



Use of this valve on original equipment makes an easy job of hooking up an extra oil tank when needed.

Made by: Anderson Brass Co., 5305—12th St., Detroit 8, Mich.

Circle E34 on coupon

Hess adds oilfired counterflo winter airconditioning Unit

HESS Climate Master Model 800-OC is an oilfired counterflow winter airconditioner, designed for basementless homes with perimeter heating. Fired with a flange-mounted gun type oilburner, the unit features removable front panels for servicing of the burner, controls, wiring and fan motor. Unit is shipped factory assembled and wired, except for mounting oilburner and installing the refractory combustion chamber. Heat exchanger is of square design, constructed of heavy welded steel.

Casing measures 26" wide x 32" deep x 69½" high; warm air opening is 17½" wide x 19" long; return air opening measures 19" x 24". Model 800-OC, which is finished in white baked enamel, has a bonnet capacity of 83,000 Btu/hr, fired at .75 gph. The 11¼" dia. blower, with double inlet and adjustable V-belt drive, has a capacity of 800 to 1,000 cfm against normal duct resistance.

Made by: The Hess Co., 1855 South 54th Ave., Chicago 6, Ill.

Circle E35 on coupon

HERE IS A NEW HIGH IN VALUE...A NEW LOW IN COST

SPECIALIZED **UTILITY BODIES** FOR ANY PURPOSE

"Bodies you can depend on" result from the skill, quality and integrity that goes into every Morysville body. Made by expert craftsmen of extra heavy steel with 5" channel under structure and floors of 12 ga. diamond plate, these all-welded bodies are the strongest in the industry. Volume production on a quality basis insures lowest prices.

This new Model U body (illustrated) combines traditional strength with utmost convenience. All compartments are weather-sealed. Perfect fitting doors with recessed spring loaded locks. Heavy sound and weather-proof undercoating. Many other advanced features to fit your needs.

Optional equipment includes: ladder racks, pipe racks, anti-rattle clamps, pipe vise, heavy duty rear bumpers, etc.

MORYSVILLE Body Works

813 SO. READING AVE.
BOYERTOWN, PA.

DISTRIBUTORS IN PRINCIPAL CITIES

Duplex Tank Bushing Fig. 400
Rex Pump Fig. R-100
Iron Hinge Fill Box Fig. 60G
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Make the best move with O. E. M.

for ✔ quality ✔ economy ✔ dependability

Our complete line of oil tank and burner installation equipment and accessories is expertly designed, precision engineered, to bring you consistent quality and performance at lowest cost.

- popular best sellers the world over
- attractively packaged for sales appeal — ideal for the jobber who needs modern, compact boxes for easy storage and inventory

Wholesalers: Send for our new catalog, "Design Makes the Difference"

Oil Equipment Mfg. Corp.

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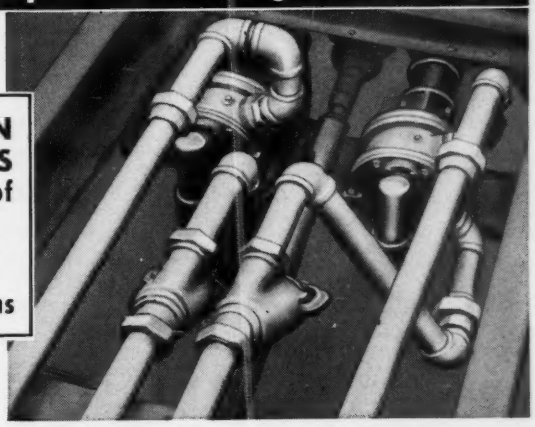
GULF

SOLAR HEAT

This emblem means contentment in more than a million homes.

Oil Heat puts Safety First.

Save Space with Viking Truck Pumps



For head room and road clearance, install Viking Truck Pumps. However you mount pump turn casing to any 45° angle for space-saving piping arrangement.

Even on two-pump mountings with dual power take-off, you have ample room for pumps, piping strainers, valves, etc.

On your next truck job be sure of positive, even delivery and long, trouble-free service. Specify Viking Truck Mounting Pumps. Ask for bulletin 1507EE.

VIKING AN HONORED NAME IN PUMPING

See Our Catalog In SWEETS

VIKING PUMP COMPANY CEDAR FALLS, IOWA

MARLOWS *are* BEST

to speed deliveries at lower costs

From storage to truck from truck to home-delivery, Marlow Self-Priming Centrifugal Pumps do the job faster and at lower cost.

Designed specifically for petroleum pumping service, Marlows can handle gasoline and home heating oils with equal ease. The exclusive Marlow Diffuser Design enables these pumps to prime and purge themselves automatically *on suction lifts*. A self-lubricating shaft seal, another Marlow feature, provides safe, drip-proof operation. Majors and independents alike know Marlow pumps for dependable, high capacity low-cost pumping performance.

For complete information see your Marlow dealer or write for new Marlow bulletin "Petroleum Product Pumps." Get all the reasons why the trend's to Marlow!

McCall Oil Company uses a Marlow Self-Primer to transfer fuel oil from 3 underground tanks through 3" loading arms to fill 1400 gallon tank trucks in 3½ minutes. Photo and installation by Shields, Harper & Co.

297

MARLOW PUMPS RIDGEWOOD, NEW JERSEY
Branch Plants: DeQueen, Arkansas
West Chicago, Illinois
Other factories in France and England. Distributors and Dealers everywhere.

Readers' Problems

Q. Installed a year ago, this No. 6 oil job having under-waterline suction-line heater performs well but normally its vacuum gage near pump inlet shows 18", never reads lower with motor running. Job has 2" suction line. Maximum temperature of oil coming to burner is 165° F. Does this indicate that in planning a new job of same type I should use 2½" suction line?

R. L. H., Manhattan, N. Y.

A. That's a matter of opinion, particularly because the job installed a year ago performs well. We agree, however, with the big-burner experts who aim for usual suction-line vacuum lower than 18". The vacuum gage that never reads lower than 18" with the burner running must give unsatisfactorily high readings at times. For that reason, we believe your new job of the same pattern needs a 2½" suction line.

Q. A fueloil company questionnaire asks burner owners if their burner operation is faulty or inefficient as evidenced by its taking a long time for heat to reach radiators or warm air registers after the burner starts. If the gph firing rate of the burner is correct in that the burner heats the house perfectly on coldest mornings, and if the furnace and boiler and the distribution system (ducts or piping) are efficient and not wasting heat, then won't long "on" and "off" periods for the burner result in slow heating of steam radiators, for example?

Take a day when the burner must run a total of eight hours out of 24 hours. The burner can, if the outside temperature remains constant all day, be "on" for 30 minutes, then "off" for 60 minutes. Or it can be "on" for five

minutes, then "off" for ten minutes.

Will swtiching to five minute "on" periods instead of 30 minute "on" periods incraese the fueloil consumption? I assume we make the switch to end slow heating of steam radiators.

F. C. Y., Trenton, N. J.

A. In answer to your first question, long "on" and "off" periods can cause slow heating of steam radiators under the conditions you describe. If a burner remains idle for 60 minutes after running 30 minutes, as your second paragraph suggests, the radiators will be stone cold when the burner starts, and they will be slower to heat than if they were warm when the burner started.

You go to great extremes in mentioning 30-minute "on" periods and 60-minute "off" periods compared to five-minute "on" periods and ten-minute "off" periods. Your last question appears to be theoretical, for on actual steam heat installations servicemen seldom if ever consider switching from 30-minute "on" periods to five-minute "on" periods.

The theoretical answer to your question, however, is "Yes," according to many heating experts. By going to extremes to obtain smooth heat and rapid heating of steam radiators (following starting of the burner) you can possibly increase the fueloil consumption. By going to extremes, you would cut the burner "on" periods to one-sixth the length of time they were to start out. Theoretically this can lead to possible higher fueloil consumption, especially on installations which have slow-heating, not rapid-heating, combustion chambers.

Q. In two or three cases, homeowners are getting into trouble by putting in their homes steam and hot water boilers that are tremendously oversize for the heating loads.

As just one recent case, an owner feels a boiler can't be too greatly oversize, takes from his business building a boiler big enough to heat a four-family house (fired 4.5 gph, this boiler gives stack temperature of 650° F.) and installs it in his house which has a steam heating load that can be carried by a 1.50 nozzle.

FIRST CHOICE

for bulk plants

Now, from the world's largest manufacturer of self-priming centrifugal pumps, comes an extended line of vertical self-primers with many new models. For many years, these popular pumps have been the first choice of small bulk plant operators everywhere . . . for aboveground or underground installations. In many cases "gravity flow" capacity has been doubled — and at low cost.

These compact and good looking verticals, built especially for petroleum service, handle gasoline and home heating oils efficiently at high delivery rates. Marlow's Diffuser Design enables these pumps to *prime and purge themselves automatically* even on suction lifts. A self-lubricating shaft seal eliminates drip—assures *safe* handling of volatile liquids. Marlow verticals are easy to install too. Just break the line and make your installation.

For complete facts about these "best sellers," see your Marlow dealer or write for Bulletin PM-50.

Three Marlow Vertical Self-Priming Pumps used by Silver City Oil Co. at Silver City, N. C. to speed delivery from aboveground storage tanks.

532

MARLOW PUMPS

RIDGEWOOD, NEW JERSEY

Branch Plants: DeQueen, Arkansas; West Chicago, Illinois

Other factories in France and England.

Distributors and Dealers everywhere

If I fire this enormous boiler at close to 1.50 gph, fueloil is wasted because after the burner starts the boiler is slow to steam. If I fire it at close to 4.5 gph, the steam pressure control pops on and off and starts and stops the burner too often.

Please publish something on where to draw the line in oversizing cast-iron boilers.

F. U. B., Eau Claire, Wis.

A. This answer deals only with old cast-iron boilers designed for coal firing; the figures would be different for steel boilers and modern boilers designed for oil.

Fire the old cast-iron, coal-designed boiler at the proper rate for the radiation load in the house. That would be the lowest rate that gives proper heat on coldest mornings, or on a steam job might be the lowest rate that fills all radiators with steam within, say, 30 to 45 minutes atfer the boiler starts steaming.

With the boiler fired at the proper rate for its radiaton load, it can be considered excessively oversize if its stack temperature reading is below about 450° F. for a steam boiler, somewhat lower than this for a hot water boiler. Many heating experts agree with the 450° F. figure; some want to shift to a figure somewhat higher or lower.

However, use of this basis for judging whether or not a boiler is excessively oversize will help you prove your point to the home owners who tend to use 25 hp boilers to heat small homes. Tremendous amounts of fueloil are wasted by using a coal-designed cast-iron boiler of 4.5 gph size to heat a home that needs a firing rate of 1.5 gph.

Q. New job being planned has three steam unit heaters as its only load, net total load on boiler is 1,400 sq. ft. steam. First plan of control is to have burner started by outside room thermostat set at 60° F., keep up five pounds steam pressure at all times when outside is below 60° F., and have each steam-filled unit heater started and stopped by a room thermostat located near it and controlling its fan motor.

Second plan of control, gained from reading old copies of FUELOIL & OIL HEAT, *is to keep burner idle in winter until one of the three room thermostats near the unit heaters snaps "on." Any thermostat snapping "on" will snap in a relay with two sets of normally-open contacts. First set of contacts starts the oilburner. Second set passes juice to the particular unit heater motor, but through a reverse-acting temperature control mounted on the unit heater.*

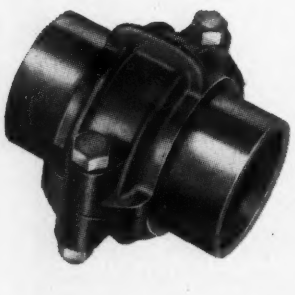
Result is that particular unit heater will start, but only after steam from boiler reaches it so it blows only hot air. When thermostat circuit opens, burner and unit heater motor both stop. Boiler and steam piping and unit heaters remain cold at all times when none of the three thermostats wants heat.

My question: In per cent or in gallons, what will be the fueloil savings of using the second control plan instead of the first?

M. G. I., New Haven, Conn.

A. The fueloil savings gained by using the better control system, the second system you describe, depend

UP TO 58½% lighter
THAN COMPARABLE COUPLINGS!



New Flexiflange Flexible Couplings — Specially Designed for Tank-Truck Use

Because the emphasis over the past few years has been on *faster unloading*, truck and trailer truck operators have been moving to large size piping. There has been one important drawback, however, to this trend. Leakproof, flexible couplings to fit the larger pipe have always been available—but they are designed primarily for use in bulk plants and refineries. This means they are much heavier than need be.

Now Philadelphia Valve Co. has solved the problem with its new line of Flexiflange Flexible Couplings. Made of malleable iron, they are engineered specifically for use in truck and trailer tanks. They're designed for 100 psi with a liberal safety factor—far stronger than necessary for tank-truck service—yet in most cases they offer a weight saving of up to 58½ percent!

Flexiflange Couplings fit into the same grooves as any standard couplings. The seals, too, are interchangeable with other standard makes. They are available in all sizes from 1" to 6". Pipe sleeve adapters can also be furnished.

To get peak efficiency with up to 58½ percent saving in weight, be sure to specify Flexiflange Couplings by Philadelphia Valve. Write for complete information and prices.

PHILADELPHIA VALVE COMPANY

3413 Aramingo Avenue, Philadelphia 34, Pa.

Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, Calif. • Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, Calif.

greatly on details of the installation—particularly on the length of the steam lines and returns, and the quality of the insulation on the boiler and mains.

We have data on a similar installation having 1,500 sq. ft. steam unit heater load which is fired at 5.5 gph. Here, about 22,000 gallons of fueloil was burned yearly using the controls you first describe. Switching to the second control system you describe produced a savings of 6,500 gallons yearly, or roughly 30%.

To put it another way, poorly controlled, this job used 42% more oil than later when it was well controlled. Depending on the details of the installation you describe, the fuel savings produced by good controls may be more or less than the fuel savings of the installation on which we give you these data.

Q. Much being gained by preheating fueloil flowing to burners using Nos. 5 and 6 oils, is anything at all gained by preheating oil for a pressure or similar burner using No. 2 oil?

E. H. B. O., Taunton, Mass.

A. No, not according to the opinions of almost all designers and manufacturers of burners that use No. 2 oil. The No. 2 oil that flows to the nozzles of typical pressure burners could easily be warmed—electric heaters could be used, for example—but it is not in typical pressure burners.

Years ago, the large size of a certain well-known pressure burner had an electric heater reservoir in its nozzle line, locaed close to the nozzle. With the burner motor idle, current flowed to a 60-watt element in this reservoir, keeping it warm. With the burner motor running, current flowed also to a 240-watt element in the reservoir to add heat and prevent a drop in the reservoir's temperature with oil flowing through it.

According to our check-ups, few dealers who installed this burner model used its fueloil heater. Some believed it was installed to permit the use of fueloils heavier than those usually burned by pressure burners. The manufacturer soon eliminated the electric heaters from his large pressure burners.

Q. The CO_2 reading is always the same on this job, 4% CO_2, no matter how far open or closed I set the air damper on the burner. With this damper one-eighth inch open, I get slight smoke from top of chimney and a stack thermometer reading of 440° F. Flame is red and smoky looking. With this damper one-half inch open, flame is very white and clean, clear stuff like steam comes from chimney top on cold days, CO_2 is 4% (same as with burner air damper one-eighth inch open), and stack thermometer reading is 510° F. My CO_2 tester works all right on other jobs.

Can you explain why this job always reads 4% CO_2 no matter how much air I give the flame? I've been combustion-testing oilburners for over 15 years and I never ran into anything like this before.

W. J., Yonkers, N. Y.

A. Similar difficulty in obtaining proper CO_2 readings has been the re-

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The Oilco Spring-Matic performs to perfection for petroleum marketers everywhere—and enjoys world-wide acceptance.
MODEL No. 460
SIZE: 3" AND 4"
This dependable loader represents the peak effort of 25 years of collaboration with the foremost engineers in the petroleum industry. Based on hydraulic and cam principles, it is flexible, yet sturdy, and is so perfectly balanced the assembly returns to semi-vertical position at the touch of a finger. It has other unsurpassed assets insuring ease of handling, economy, trouble-free operation and complete satisfaction. Write now for detailed description.
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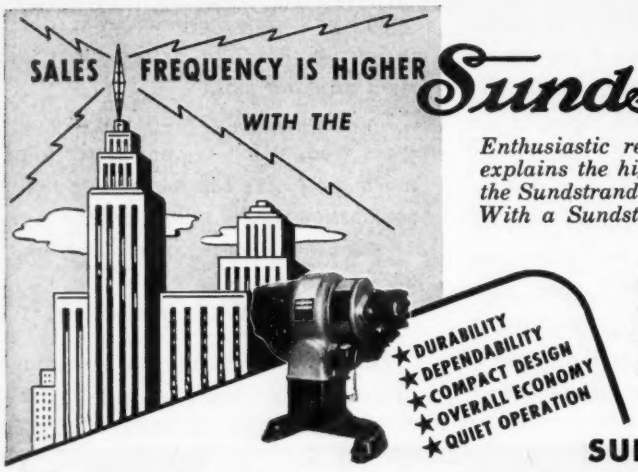
INCORPORATED
3100 VERMONT AVE., LOUISVILLE 11, KY.

SALES FREQUENCY IS HIGHER WITH THE Sundstrand OIL BURNERS



Enthusiastic reception by the public explains the higher sales frequency of the Sundstrand all-electric oil burners. With a Sundstrand, the most modern concepts of warm air heating are realized. . . . That's not enough; with a Sundstrand, initial low-cost is matched by long-span oil burner performance.

. . . These values and the Sundstrand reputation for the finest in oil heating add up to complete customer satisfaction. Foot or bracket mounted, all Sundstrand oil burners are listed as standard by Underwriters' Laboratories . . . and meet all state and local requirements.

A leader in oil heating for 33 years.

SUNDSTRAND ENGINEERING CO., Rockford, Illinois

sult of using a smokepipe test hole to obtain the flue gas samples, and of having bad air leaks in the smokepipe or smokehood, or in the flue clean-out doors or firing doors. Great amounts of air entering the bad air leaks reduce all CO_2 readings greatly and produce similar readings from lean flames and rich flames.

You can prove that air leaks are causing your difficulty by blocking the chimney end of the smokepipe sufficiently to put a plus pressure of about .01" on the entire smokepipe, adjusting the flame to produce no smoke, and taking CO_2 readings.

Or to determine the CO_2 of the flame without locating and sealing the air leaks, draw your gas sample from the combustion chamber of the furnace or boiler. Obtain and analyze a sample of the gases entering the uptakes to the flue passages.

Q. How can you make the owner of a big house let you fast-fill his 2,000-gallon fueloil tank, when he insists you slow-fill it? The way he wants us to trickle No. 2 oil into his tank takes us half a day to drop off a truckload. He watches us like a hawk, takes the hose nozzle out of the hands of a driver who lets go with more than about five gallons per minute.

The reason for all this is his water-heating boiler is fired by a pressure burner with a .85 gph nozzle that always gives trouble. Our customer says flowing fueloil swiftly into his oil tank stirs up dirt and gum that's settled to the bottom of the tank and is resting there, so if we fast-fill the tank we cause the .85 gph nozzle to plug. Then he's out of hot water until a serviceman arrives.

The principle of the thing bothers him, not the expense of the serviceman. He can well afford all kinds of expenses, but he doesn't want breakdowns of his water heating boiler six times a year, he says. His house-heating burner fires 7.0 gph and never gives any kind of trouble.

E. S. Y., Stamford, Conn.

A. Your customer may have heard of the old-time practice of turning off a burner main switch while delivering fueloil, and turning it back on only after the dirt in the tank has had time to re-settle—a few hours later.

That practice was followed by certain fueloil suppliers before we had highly effective fueloil filters. Sell your customer the most effective filter made for eliminating nozzle plugging trouble on low gph jobs, and install the filter in the suction line of the burner that heats water for him.

We know one fueloil supplier who, uncertain about which filter is most effective, makes a practice of installing

OIL BURNER IGNITION ASSEMBLIES for industrial and residential use

CROWN offers a complete line of standard oil burner electrode assemblies, cable assemblies, hardware, terminals and UL approved cable. Quality is the finest available. Ceramic insulators are UL approved. Prompt, efficient, reliable service on all orders—large or small.

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CROWN engineering service is complete. Call or write today for complete information on standard or custom-built assemblies. Literature on request.

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$9.75 Complete

1. BLOWS OR SUCKS OUT SLUDGE IN OIL LINES
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A superior piece of equipment, servicemen will welcome this compact, handy pump with these up-to-the-minute advantages:

- Suction and pressure side terminate in two absolutely tight Hold-Tite Oil-Chek valves
- Revolutionary solid brass piston design with neoprene ring assures long life and high efficiency
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Pump may be purchased separately (without valves) for other uses, only $7.50

ORDER FROM YOUR JOBBER OR WRITE DIRECT

HOLD-TITE VALVE MFG. CO.
550 Fifth Avenue, New York 36, N. Y.
Control Repair Parts • Valves • Specialties

in a suction line two excellent oil filters piped in series. Oil line filters for low gph burners are exceedingly inexpensive, he points out, and his idea of using two different kinds on each installation certainly has proved to be 100% effective for ending trouble with low gph nozzles.

Q. You once published a thumb rule about figuring burner sizes for apartment houses, basing gph rates on coal consumption. Please publish it again. We want to give it to our salesmen for starting out to figure burner sizes so they can price jobs quickly. An engineer will check thoroughly later. We'll be content if on one job out of ten he has to shift to a burner of different size than the salesman first figured was right for the job.

E. S. N., Manhattan, N. Y.

A. We believe you have something like this in mind: (1) for apartment houses, figure on firing one gph for each ten tons of coal used per year for heating; (2) Figure that one-third of the coal delivered to an apartment house is used for water heating, and two-thirds is used for heating; (3) to play safe, have a salesman add 25% to the firing rate he figures is suitable for an apartment house, before he selects the size of the oilburner.

Example: Total coal consumption for an apartment house is 360 tons per year. One-third of this, or 120 tons, serves for water heating; two-thirds or 240 tons serves for heating the building. Ten per cent of 240 gives a firing rate of 24 gph. Add 25% to play safe, and you decide on a burner able to fire 30 gph. If the burners come in sizes for 25 gph and 35 gph, you plan to install a burner able to fire 35 gph.

A simpler thumb rule with greater safety against undersizing in it is: Figure the gph firing rate by taking ten per cent of the total yearly coal consumption of the building, including coal used for heating and for water heating.

Your engineer should decide which of these two thumb rules your salesmen should use, for he will be passing on the burner sizes they arrive at tentatively.

Because it gives details on the Btu method for figuring gph rates and also gives five thumb rules for figuring gph rates, you should obtain and study a copy of the "B&W Firebox Handbook," available upon request from The Babcock & Wilcox Company, 85 Liberty St., New York 6, N. Y.

Q. Using a certain testing set-up that includes an oilfired boiler and a pressure burner fitted with typical air-handling parts in its gun tube, the temperature of the nozzle increases to a maximum of 165° F. following stopping the burner.

We make only one change, that is we switch from typical gun-tube air-handling parts to probably the best firing head ever designed. After adjusting the burner for the identical CO_2 reading we had for the first test, we find the boiler gives the identical stack temperature reading of the first test. Nozzle, atomizing pressure, and firing rate of both tests are identical.

Then, apparently as the result of switching to the better firing head, after the burner stops we read a maximum temperature of 265° F. for the

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RECTORSEAL #2

• You can be sure there will be no costly dangerous leaks on threaded or gasketed connections in your fuel oil installations when you use Rectorseal #2. It's the perfect sealant—easy to apply, economical. Thin in the can, it thickens in the joint to give a positive seal. It never hardens—never gets brittle. Proved best in the Oil Industry for 15 years. Make a test—send for a free sample.

AVAILABLE in ¼, ½ and 1 pt. brush-top cans; qts. or gals. in friction-top cans. Write —

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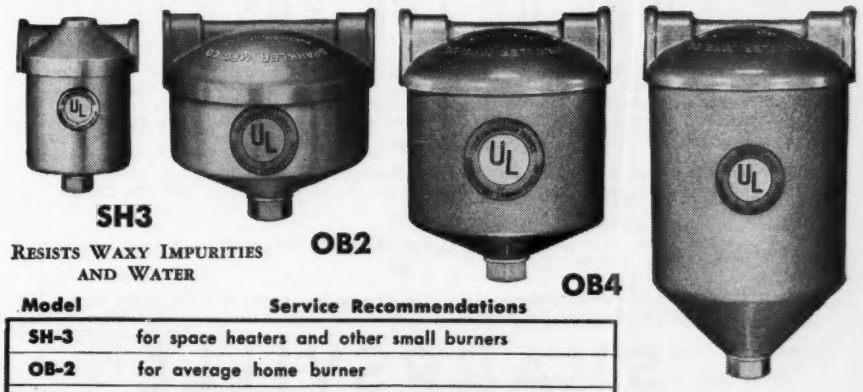
RECTORSEAL
NUMBER TWO

"SPARKLER FUEL OIL FILTERS
. . . have saved me a lot of grief in servicing burners"

—says one fuel oil dealer. If you keep the fine tank rust out of the fuel line you don't have clogged burner tips. The rayon filtering element in a Sparkler filter does just this, consistently all during the heating season.



SH3
RESISTS WAXY IMPURITIES AND WATER

OB2

OB4

OB8

Model	Service Recommendations
SH-3	for space heaters and other small burners
OB-2	for average home burner
OB-4	for apartment buildings and small steam boilers
OB-8	for industrial burners

Available from all oil burner jobbers

SPARKLER
Write G. Harry DeGraw for particulars
MANUFACTURING CO., Mundelein, Illinois
MAKERS OF FILTERS FOR THE PETROLEUM INDUSTRY FOR OVER A QUARTER OF A CENTURY

nozzle, instead of the 165° F. of the first test. Does this make sense to you? Please discuss it, as we are studying maximum nozzle temperatures and their relation to nozzle troubles of clogging and formation of gum.

S. N., Newark, N. J.

A. The increase in maximum nozzle temperature following stopping the burner does make sense, because switching to the better firing head results in a better, hotter fire. Higher flame temperatures lead to higher temperatures for the refractory combustion chamber you are using. The hotter the firebox when the burner stops, the higher will be the maximum temperature of the nozzle.

Don't fail to make tests of smokepipe smoke when you make studies of this type. With the smoke readings precisely the same for the two tests you describe, you should obtain a higher CO_2 reading using the better head. If you do, then use of the smoke testing instrument proves that using the better combustion head gives higher boiler efficiencies, which is a point not brought out by your tests so far, and which must puzzle you. Your tests indicate that the better head produces higher firebox temperatures. These lead logically to higher boiler efficiencies.

Q. Servicing many makes of burners, mainly pressure burners, we would appreciate a list of items that should get yearly attention when a serviceman goes out specifically to give such attention or when he answers a breakdown call and encounters a burner that's been neglected a few years.

P. D. R. C., Chicago

A. We regret we cannot give here the thousands of words needed to answer you completely.

Our articles on check-ups have indicated that proper attention should be given each year to these parts: Limit controls; safety control panels; leaks in oil lines and fittings; fueloil strainers and filters; furnace or boiler heating surfaces (clean them, if they need it); draft regulators; rates at which oil and air go to flames; parts that must be adjusted for dependable, efficient operation.

Yearly attention for gun-type burners is needed for: Nozzles; ignition systems, particularly spark points or electrodes; shut-off valves; pressure regulator valves; pump glands; motor bearings (lubrication); devices that must be adjusted to produce efficient flames.

We suggest you order from us the book, "Heading Off Trouble in Domestic Oilheating," price $1. The first part, entitled, "Precautions Against Trouble," includes details on the points listed above, and also includes additional points on items to check every third or fourth year. Check-up instructions in the book cover wall flame rotary burners as well as gun-type burners.

Q. Entertainment and education rarely accompany each other; as a steady reader of your "Readers' Problems" I appreciate that every month it provides me with both.

I enjoyed particularly studying in your August issue the objections you list, on request of B. R. N., Manhat-

Now, as you approach the fuel oil season, you may need a new truck tank . . . right away. Anticipating this situation, we have in stock the following units, ready for immediate delivery, subject to prior sale.

One of these *from stock* may be the answer

4—1700-gallon, 3-compartment, fully skirted Sharpsville Model 70 Truck Tanks with pumping system including 90 g.p.m. pump, 100 g.p.m. printer meter mounted for pump and gravity unloading, explosion-proof electric reel with 125 ft. 1¼" hose, nozzle and check valve. Remote clutch and power take-off controls in bucket box. Suitable for 102" CA Chassis.

5—1500-gallon, 4-compartment, skirted Sharpsville Model 60 Truck Tanks, with cabinets in front skirting. Can be piped to suit purchaser. For 102" CA Chassis.

6—1200-gallon, 4-compartment, full skirted Sharpsville Model 70 Truck Tanks, piping to be added. For 84" CA Chassis.

8—1000-gallon, 4-compartment, full skirted Sharpsville Model 70 Truck Tanks, piping to be added. For 84" CA Chassis.

SHARPSVILLE STEEL FABRICATORS, Inc.

Sharpsville, Pa.

ACT QUICKLY! Write or wire for full details and prices.

BUILDERS OF TRUCK TANKS, STORAGE TANKS AND PRESSURE VESSELS

tan, N. Y., to continuous ignition for gun burners. Obviously the man who wants to use continuous ignition for all his installations, or continuous ignition for some and intermittent ignition for others, cannot use the modern types of combustion heads which are not suitable for continuous ignition. You did not so state forthright. One knows from your reply you know it.

Question #1: Were you not overly kind to manufacturers of ignition transformers in failing to state that more trouble from such transformers occurs on continuous ignition installations than on intermittent ignition installations, where the transformers suffer far fewer hours of use and enjoy lower maximum temperatures as a result?

Question #2: Don't you really prefer continuous ignition?

T. L., Toronto, Ontario

A. Answer #1: Not intentionally.

Answer #2: Decidedly yes—for jobs on which continuous ignition cures troubles not cured by intermittent ignition—but only for burners suitable for continuous ignition, and preferably not having fuel-wasting or other disadvantages resulting from their being able to use such ignition.

Q. I obtained and am using regularly a smoke-reading instrument because answering a previous question you said this instrument must be used to aid and abet a CO_2 tester, to make CO_2 readings really significant.

One make nozzle in this furnace unit gives 9¼% CO_2, #2 smoke, and 680° F. stack. At 100 lbs. atomizing pressure.

I can get identical readings and performance from another make nozzle, identical nozzle markings, only by shifting to 120 lbs. atomizing pressure.

First, does this prove the first nozzle is better than the second?

Second, am I abusing the fuel unit or burner motor, overloading it, running 120 lbs. atomizing pressure?

L. E. O., Keyport, N. J.

A. First, no, it may merely indicate the gph outputs of the two nozzles are the same only with 100 lbs. pressure on one and 120 lbs. pressure on the other. It seems to. If it does, it does not indicate which nozzle is stamped only with respect to its gph output.

Second, you are not abusing the fuel unit or burner motor using 120 lbs. nozzle pressure. That gives a negligible increase in the wear-and-tear on the fuel unit and the load on the motor.

Q. After receiving no attention at all for more than four years, this furnace-burner started giving the dangdest pulsation trouble. My serviceman reports he could get it out of trouble only by adding weights to the draft regulator to keep it closed tight. Fired at 1.0 gph, furnace had over-fire draft of zero or balanced when he arrived, had half a hundredths over-fire draft when he left. It's true he licked the pulsation trouble in 15 minutes of working on the job, but I wonder if academically he used the correct method to lick it.

M. K. J., Philadelphia

A. Taking literally every word in your letter, we come to the conclu-

Fulflo FILTERS
THE BRAND OF DEPENDABILITY
For Fuel Oil Filtration
Your customer expects dependable service from you and from the products you stock. Assure their satisfaction by placing a Fulflo Filter on every oil burner you install and on each unit you service.
Fulflo's Honeycomb Filter Tube gives a true depth filtration of every drop of fuel oil. Costly service calls arising from minute impurities always present in heating oils are thereby eliminated.
Alert dealers everywhere are placing their orders for Fall delivery of Fulflo Filters and Honeycomb Filter Tubes. Check your own stock now. If your jobber can't supply you, write or wire us.
COMMERCIAL FILTERS CORPORATION
2 MAIN STREET, MELROSE 76, MASSACHUSETTS

THOUSANDS OF OIL HEAT DEALERS SWEAR BY GORTON VALVES

Steam jobs can only be as efficient as the venting valves used. Many inefficient steam jobs need GORTON VALVES to make all radiators heat *even* and *quickly*. If you have not used GORTON VALVES, why not try them on your next steam job? The results will amaze you and you too will then swear by GORTON VALVES.

1941 Prices of Gorton Valves Still Hold!

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GORTON HEATING CORPORATION

Since 1887—Manufacturers of Heating Equipment

CRANFORD NEW JERSEY

. . . . Readers' Problems .

sion that the flues of the furnace have not been cleaned for more than four years. Then the pulsation probably resulted from insufficient over-fire draft caused by plugged flues. The maximum setting of the draft regulator, providing smokepipe draft higher than .06" or .08", failed to provide a properly negative over-fire draft, but your serviceman wound up with such an over-fire draft by blocking the draft regulator shut. If cleaning the flues provides proper over-fire draft with the draft regulator working and adjusted properly, then your serviceman did the wrong thing in not cleaning the furnace's plugged flues.

Q. On p. 163 of the August issue and in answer to questions from W. T. J., Sioux City, Ia., you give thumb rules relating Btu's in fueloil to heat in hot water at certain gpm rates. Leaks in a big building, evaluated by a water meter in a hot water line, amount to seven gallons of hot water per minute. Leaks continue 24 hours a day. Can you supply a thumb rule to ascertain how much fueloil, used to heat water, is wasted by these hot water leaks? Figuring 100° F. rise for the hot water?

T. J. S., Two Rivers, Wis.

A. Use the same thumb rule that appeared in the answer for W. T. J., Sioux City.

Firing 1.0 gph devoted entirely to heating water provides 2 gpm of hot water, 100° F. rise basis. That's No. 2 fueloil used at 70% efficiency.

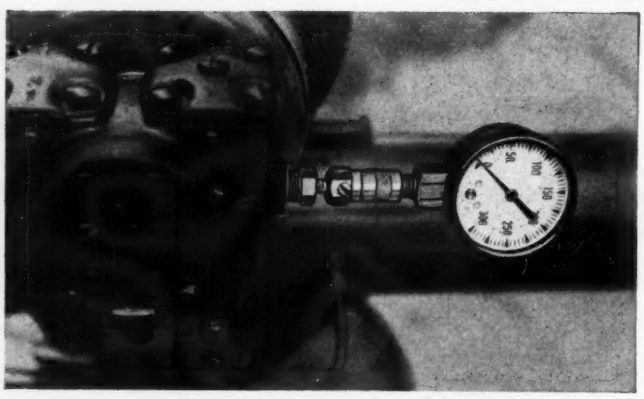
To provide 7 gpm of wasted hot water takes 3.5 gallons of light oil per hour. Hence wasting seven gallons of hot water per minute, 24 hours a day, wastes 84 gallons of No. 2 fueloil per day. Less fueloil is wasted, perhaps 8% to 10% less, if heavy fueloil is used for the water heating, because heavy oil contains more heat per gallon than light oil.

During the heating season, actually these figures do not apply fully; much of the heat in the wasted hot water actually serves to heat the building during the heating season.

❖

E. M. Campbell has been named manager of sales planning, American Radiator & Standard Sanitary Corp., Pittsburgh 30. In this position he will direct programs designed to assist the trade in the sales and specification of American-Standard products. *George A. Beise* has been appointed by American-Standard as manager of market development. He will be in charge of market research, sales analysis and quota planning.

Test Fuel-Unit Pressure In A Jiffy . . .



Hydrovalve's NEW contribution to quicker and easier oil burner servicing, is a gauge adapter that makes it unnecessary to remove frozen and mutilated bleeder valves in order to check FUEL-UNIT PRESSURE.

Simply remove screw from any bleeder valve, insert QUICK-TEST GAUGE ADAPTER . . . That's all it takes to check pressure.

DO MORE SERVICING—Do it quicker—with a HYDROVALVE QUICK-TEST GAUGE ADAPTER. This time-saving tool is sturdily made of heat treated alloy steel for extra strength and features a neoprene "O" ring packing, so that the gauge can turn 180° for checking from any position. A new seat design adapts the new QUICK TEST to all bleeder valves and fuel units.

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For trouble-free performance ask your jobber for HYDROVALVE electrodes, gaskets, service parts, tools, couplings, bleeder plugs, etc.—They're service engineered.

HYDROVALVE CO., 1319 Utica Ave., Brooklyn 3, N. Y.

York City, the prime contractor, plans to start construction later this year. Completion is expected by the end of 1954.

Hydroforming takes its name from a combination of "hydrogen" and "reforming." The process was developed primarily to improve the octane nuber of gasoline by exposing the gasoline fractions of crude oil to a special catalyst in the presence of hydrogen. The catalyst, unchanged itself, causes the structure of the gasoline molecules to be reformed in such a way as to make a major improvement in their behavior in a high compression engine. Standard Oil had a role in the development of the original hydroforming process, which was adapted to produce toluene for World War II munitions.

Quiet Heet's expansion Program quadruples production Capacity

THE EXPANSION PROGRAM of the Quiet Heet Mfg. Corp., Newark, N. J., recently completed, has nearly quadrupled the company's capacity for production of Quiet Heet oilburners and Quiet Kool airconditioners, the company reports.

The heart of this expansion is the complete modernization of 100,000 sq. ft. of space. This will now enable Quiet Heet to consolidate all of its manufacturing, engineering, testing and warehousing facilities under one roof. The revamped plant, the firm states, has not only enabled them to increase production many times over, but will effect new economies from improved material flow and increased efficiencies.

U. S. Radiator Corp. holds regional sales Meetings

TWO REGIONAL Sales Meetings, one at the Edgewater Beach Hotel in Chicago, and the other at the Hotel Commodore in New York, have recently been held by United States Radiator Corp., Pittsburgh.

An extensive line of new products, including a line of summer air conditioners, three models of boilers, and two models of radiant baseboards, was introduced to the entire U. S. sales force at these meetings.

Arthur A. Olson & Co. names Gale Eng. as New York Rep

ARTHUR A. OLSON & CO., Canfield, Ohio, has announced the appointment of Gale Engineering Co., New York, as its representative for southern New York State and northern New Jersey. Olson manufactures direct-fired oil or gasburning heaters for industrial space heating and special adaptions.

Gale Engineering is a well-known firm in the New York area also representing other lines for the industrial field.

❖

Samuel Seltzer, Jr. now is president of Royal Petroleum Corp., New York, N. Y. *E. M. Morrison* has been named vice-president and will continue as sales manager of the company, independent petroleum suppliers.

LOVEJOY Type DX Double Flex
FLEXIBLE COUPLINGS

Build smooth, quiet operation, efficient performance, and enduring service life into your fans and pumps with LOVEJOY Flexible Couplings. Quickly installed. Easily serviced. Ideal for close-quarter applications. Special rubber center increases flexibility . . . dampens out noise and vibration. Most manufacturers supply fans with Lovejoy jaws on fan hubs at no extra cost.

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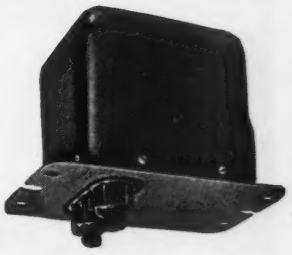
DONGAN TRANSFORMERS

UNFAILING IGNITION FOR OIL BURNERS



IGNITION is at its best when an oil burner is equipped with a Dongan Transformer—the transformer with many unusual construction features. Insulated under high vacuum. Protected against injury from electrical surges. Laminations heat-treated to remove internal stresses.

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Voltages from 5,000 to 20,000
A variety of sizes and mountings

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"The Dongan Line Since 1909"

Your trucks and drivers can work profitably 12 months of the year!

Applying Fertil-Ade to your customers' lawns and gardens.

Regular stops . . . monthly contracts . . . positive results

No more summer layoffs of valuable trained help . . .

No more dead-head depreciation on your trucks . . .

WRITE FOR FULL DETAILS:

SMITH EQUIPMENT AND SUPPLY CO.

1615-21 N. Central Avenue, Chicago, Ill.

Catalogs and Sales Literature

Following are brief descriptions of catalogs and sales literature prepared by the manufacturers indicated. Dealers who are interested in securing copies should fill in the coupon on page 147, circle the number that corresponds to the item in which they are interested, clip the coupon to their letterheads and mail to FUELOIL & OIL HEAT.

NU-WAY OILBURNERS. Literature available from The Nu-Way Corp., Rock Island, Ill., describes its complete line of oilburners for domestic and commercial applications, capacities from 0.75 to 20.0 gph. Smaller piece outlines the function of a patented nozzle shield. Third folder tells consumers "What to expect when you convert to a Nu-Way oilburner" and includes explanations of the burner's construction and operating features.

Circle No. C1 on coupon

NIAGARA TOOLS. A buyer's guide for sheet metal workers, prepared by Niagara Machine & Tool Works, Buffalo 11, N. Y., contains illustrations of a number of hand tools the company makes. The complete line includes many machines and tools for fabrication of sheet metal work.

Circle No. C2 on coupon

HALLY NOZZLE FILTER. Data sheet, prepared by Delavan Mfg. Co., 3009 Sixth Ave., Des Moines 13, Ia., pictures and describes Hally nozzle filter. The device employs a stack of rigid metal filter discs to prevent nozzle clogging. Available in four sizes for all high pressure burners, recommended capacities from 0.50 to 3.0 gph. Delavan nozzles can be obtained with the filters attached.

Circle No. C3 on coupon

TACO CATALOG. General catalog H-99, available from Taco Heaters, Inc., 137 South St., Providence 3, R. I., features circulator performance curves, heater selection charts and complete information on all Taco heating specialties and accessories. Catalog has 16 pages, arranged for quick reference, punched for loose leaf binder.

Circle No. C4 on coupon

ROPER ROTARY PUMPS. Catalog 953 is devoted to the line of rotary pumps made by Geo. D. Roper Corp., Rockford, Ill., including models for tank truck use and for industrial oilburners. Each of four types are pictured, with suggested applications discussed, features highlighted, dimensions and capacities listed in tables.

Circle No. C5 on coupon

SID HARVEY'S NEWS. The 1953-54 catalog, prepared by Sid Harvey, Inc., Valley Stream, N. Y., contains 214 illustrated pages of practically every part, new or rebuilt, used in automatic heating installations. Service tools, gauges, test instruments, fittings and cleaning equipment are included, plus technical information on oilburner accessory equipment. Harvey's rebuilding and replacement parts service is explained in the introduction. Available to installation and service organizations.

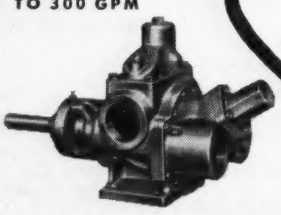
Circle No. C6 on coupon

PIONEER OF *Precision*
STANDARD OF *Accuracy*

Granco

PUMPS & METERS

CAPACITIES TO 300 GPM



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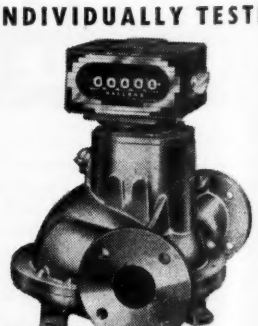

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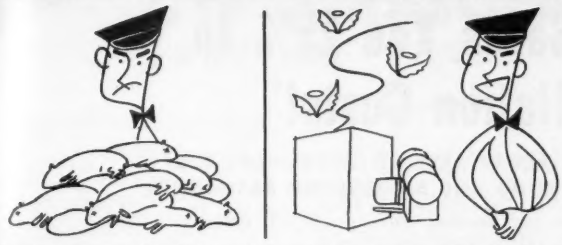
PIGS BURN ON TIME...6 MONTHS' JOB IN 2 WEEKS



South American hospital needs special oil burners with 150V. AC motors in destructornator for cremating guinea pigs. Must meet ship in 2 weeks—usually takes 6 months for special motors. Phone call to Electrol. Result:—Electrol met the ship . . . guinea pigs burn on time.

4786

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Electrol Burner Mfg. Co., Inc.
22 Union Avenue, Rutherford, N. J.

Perfex Controls

(*Begins on page 72*)

ity for the burner to re-start until the ignition timer contacts have closed. Because of the action of "A-2 Relay Contact" and ignition timer contacts T-1 and T-2, the burner cannot start without the ignition transformer's being turned on. "A-1 Relay Contact" simply serves to keep the ignition transformer turned off when the burner motor is not running.

In Diag. 2 as in Diag. 1, the safety switch heater and the safety switch contact are wired line-voltage and in series with the primary coil of the low-voltage transformer.

Diag. 3 shows the internal wiring used with the PerfXray and its control panel. With the room thermostat circuit open and the burner idle, "A-1 Relay Contact" is open, so is "A-2 Relay Contact." Complete the room thermostat circuit—and remember that "A-1 Relay Contact" is open, for that's most important—and current will flow through the relay coil, IF the flame detector is cold and its switch therefore is closed. A bit of a drop in temperature closes the switch in the flame detector, a bit of a rise in temperature opens the switch. The flame detector has in it a slip-clutch arrangement, and its switch works on a slight rise or fall in temperature.

The burner cannot start, then, unless the circuit of the flame detector is closed—unless the flame detector switch is closed.

Starting of the burner means closing of two switches (putting current through the relay coil in the drawing

radiators
boiler
burner

s-t-r-e-t-c-h heating plant c-a-p-a-c-i-t-y

WITH THE WEATHER-FLO
the indoor-outdoor control that fits any job—*on the job*

The Weather-Flo stretches the capacity of the heating system in these two ways:

1. The Weather-Flo with its constant, modulated flow of heat adds from ten to fifteen per cent extra capacity to your radiators, your boiler and burner! It eliminates the need of the extra "pick-up" capacity required with the "catch-up" type of start-stop room thermostat action.

2. Most hot water systems are designed for a top water temperature of 180°F. Weather-Flo is designed to be raised ten or twenty degrees above that. This is practical because with Weather-Flo control, these high temperatures are reached only on those three or four days a year when outdoor temperatures drop to their extreme low.

Get all the facts on Weather-Flo. Write for Bulletin F-453.

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WARM THE COLD OUTSIDE WALL—
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PATCO AIR-BASEBOARD
THE WALL RADIATES HEAT

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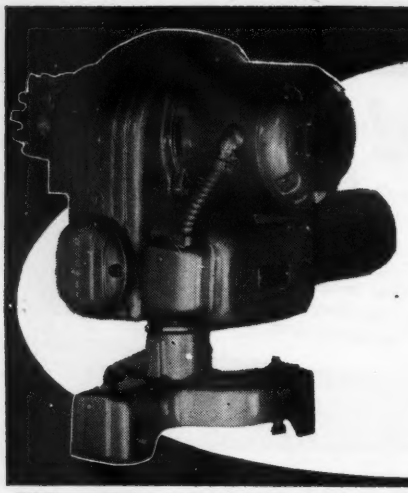

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- and you'll have 75% FEWER SERVICE-ADJUSTMENT CALLS*
- and get FREE ENGINEERING AND ADVERTISING ASSISTANCE!

Conclusions resulting from independent survey of oil burner dealers.

JOBBERS & DEALERS: The approximate 25% saving in Rexoil installation costs is really an extra 25% profit for you! Wire, write or phone Charlie Reif at WA. 2420 for complete information.

REIF-REXOIL, INC.
37 CARROLL STREET BUFFALO 3, N. Y.

causes a relay to snap in and close these switches) which in Diag. 3 are marked "A-1 Relay Contact" and "A-2 Relay Contact." Notice how closing the first of these (A-1) alters the low-voltage circuit.

At first, the flame detector switch had to be closed to permit the burner to start. Now, after the burner has started and "A-1 Relay Contact" has closed, the burner will stop on safety lock-out within 45 seconds—if the switch in the flame detector does not open within 45 seconds. If current flows through the safety switch heater for 45 seconds, the safety switch contact in Diag. 3 will snap open. Once open, this switch remains open until someone presses the safety re-set button to close it and re-start the burner.

The circuitry of Diag. 3 plus the unique performance of the PerfXray are responsible for many of the features, such as those listed below, which a PerfXray enthusiast is anxious to explain to you, if only you'll listen to him:

1. The PerfXray safety control system can be application-engineered to match the characteristics of a particular burner. This gains valuable similarity of performance and dependability, for it eliminates many of the variable factors involved, for example, in stack-mounted control set-ups.

2. Inventory simplification is gained by packaging the controls and the burner as a complete unit.

3. Factory wiring of burners, furnace-burner units, and boiler burner units eliminates many possibilities of wiring mistakes and flaws which re-

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This is a practical book that takes you logically from means of measurement and means of actuation . . . through construction and characteristics of control devices . . . to the combination of individual devices into control systems. Special attention is given to each area—domestic heating, commercial heating and air conditioning, unit heaters and unit ventilators, and radiant panel heating systems, and the special problems of automatic control for refrigeration equipment as used in air conditioning. A big aid is a chapter on control terminology.

AUTOMATIC CONTROL of HEATING and AIR CONDITIONING
By JOHN E. HAINES
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Minneapolis-Honeywell Regulator Company
354 pages, 6 x 9, 200 illustrations, $6.75

A few of the chapters:
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sult from on-the-job wiring of controls.

4. Completely wired oilburners and furnace-or-boiler units can be factory tested to check proper performance—the testing can be done thoroughly yet quickly and inexpensively on a production-line basis.

5. Cramped installations can have control panels that can be serviced from fronts of the oilheating equipment. Similarly, alcove or close-clearance furnaces and boilers can have control panels nicely located for easy servicing.

6. PerfXray located in a gun tube is nicely protected, yet is easily accessible for inspection.

7. PerfXray eliminates difficulties related to short-run smokepipes and draft regulators built into furnaces and boilers.

8. PerfXray ends problems related to burning out of stack elements located in overly hot smokepipes or in flues and too close to flames.

9. Located not near a hot smokepipe, but in a location that's clean and cool, the relay unit will give better service and have a longer life than a stack-mounted control panel.

10. Flame detector responds to radiant heat—not to light. Normal deposits of soot, as are found in its gun-tube location, actually improve the performance of the PerfXray! Photo-tubes act oppositely.

11. Flame detector withstands even higher operating temperatures than photo-cells. Even 500° F. is not unusual, is not excessive.

12. No problem of "aging" causing periodic need for replacement.

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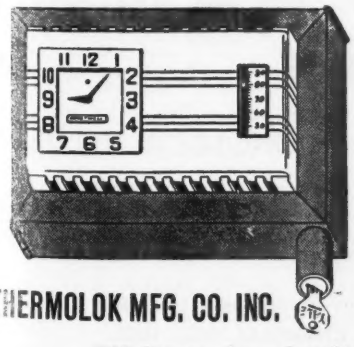

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- No holes in wall.
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You can make ducts and fittings easily and quickly without hammering work. You can turn out dependable, precision work on this inexpensive top-quality sheet metal bending brake. Let us show you!

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HALLMOR INC. — McMurray Road, Bridgeville, Pa.

13. Metal-clad and hermetically sealed, flame detector is not affected by oily atmosphere.

14. Of small size and slim shape, PerfXray has little or no effect on air flow in gun tube.

15. Fail-safe operation; switch in PerfXray has to close to permit burner to start, has to open to permit burner to continue to run. PerfXray does its own circuit checking and switch-operation checking on each and every burner cycle.

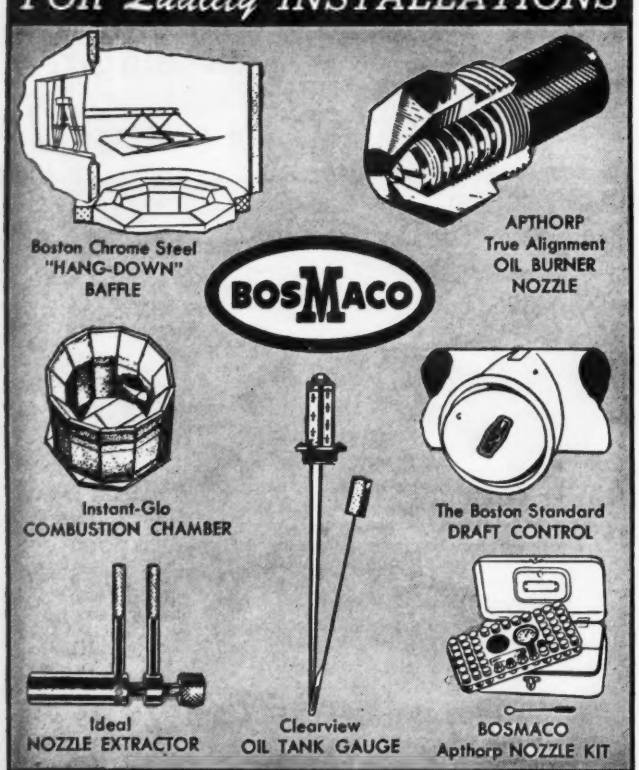
16. Rapid response. PerfXray responds in a few seconds to flame, correspondingly fast to flame extinction. Exact figures cannot be given because of variations in mounting, type of nozzle, firebox design and material, etc., but four seconds response time is not unusual.

17. Radiant heat from a firebox made of high-temperature refractory material has no effect on the PerfXray after a burner stops—because this flame detector works on rise-or-fall of temperature and the difference between radiant heat from a flame and radiant heat from red-hot refractory material is far greater than the operating differential of the PerfXray.

18. Because of its 45-second safety timing and the rapid response of the PerfXray, this control system is suitable for high-firing-rate installations—for which stack-mounted controls respond too slowly to provide acceptable safety.

19. Available in models for constant ignition and intermittent ignition, with all parts of relay units the same as in other Perfex panels (stack-mounted).

FOR Quality INSTALLATIONS



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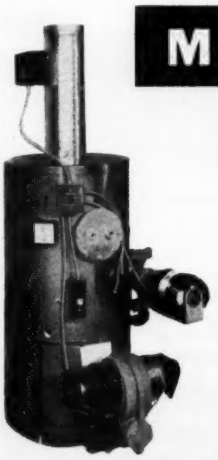

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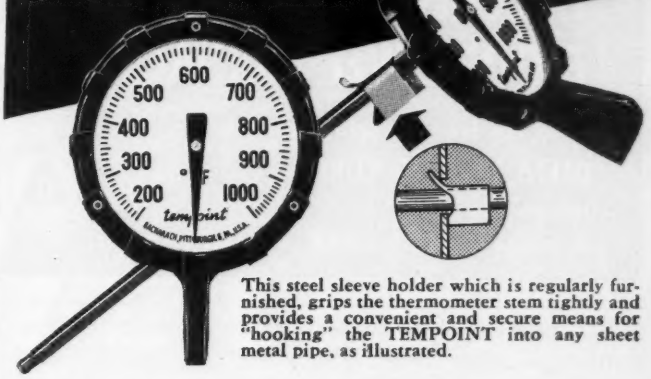

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Statement of the ownership, management and circulation required by the Act of Congress of August 24, 1912, as amended by the Acts of March 3, 1933 and July 2, 1946 (Title 39, United States Code, Section 233) of FUELOIL & OIL HEAT, published monthly at Baltimore, Md., for October 1, 1953:

State of New York, County of New York—ss

Before me, a notary public in and for the state and county aforesaid, personally appeared Robert Gray, who, having been duly sworn deposes and says that he is the editor of FUELOIL & OIL HEAT and that the following is, to the best of his knowledge and belief, a true statement of the ownership and management of the aforesaid publication for the date shown, required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933 and July 2, 1946 (Title 39, United States Code, Section 233), printed on the reverse of this form to wit:

1. That the names and addresses of the publisher, editor, managing editor and advertising manager are:

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Editor—Robert Gray, New York, N. Y.
Managing Editor—Bert Dunphy, New York, N. Y.
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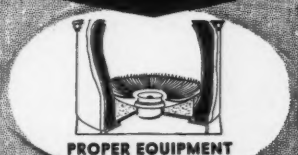
ROBERT GRAY, Editor

Sworn to and subscribed before me this 15th day of September, 1953.
MARGARET V. McINERNEY
(My commission expires March 30, 1954.)

The Answer To Competition



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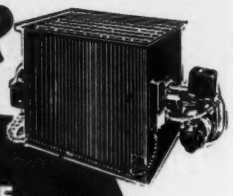

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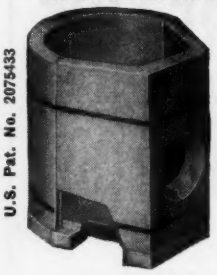

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20. Has many of the virtues of electronic-type safety control panels, but can be installed and serviced by typical oilburner men, who are not electronics experts. Does not require re-education of oilburner men.

❖

Joseph A. Cerny has been named manager of sales engineering and information section, Bryant Heater Div., Affiliated Gas Equipment, Inc., Cleveland and *Paul J. Schaach* has been named Bryant Cleveland branch sales manager succeeding Cerny. Cerny joined Bryant in 1940 in charge of controls development. He was named chief development engineer in 1947 and manager of the sales engineering department in 1948. Cerny was named to the Cleveland branch sales manager post in 1951. Schaack joined Bryant in 1935 as a sales engineer. He was transferred to the Pittsburgh office in 1940 and in 1946 was named manager of sales for the state of Florida and South Georgia. In 1951, Schaack was transferred to Washington with NPA.

Robert W. Lear has been appointed general marketing manager of the plumbing and radiator heating division, American Radiator & Standard Sanitary Corp., Pittsburgh 30. In this position, Lear will direct all staff sales activities for the division. It was also announced that *Robert W. Williams* has been appointed advertising and sales promotion manager, a position just vacated by Lear. Lear began his association with American-Standard in 1947. In 1949, he was named assistant manager and manager in 1950.

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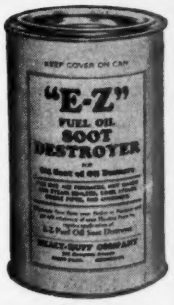

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